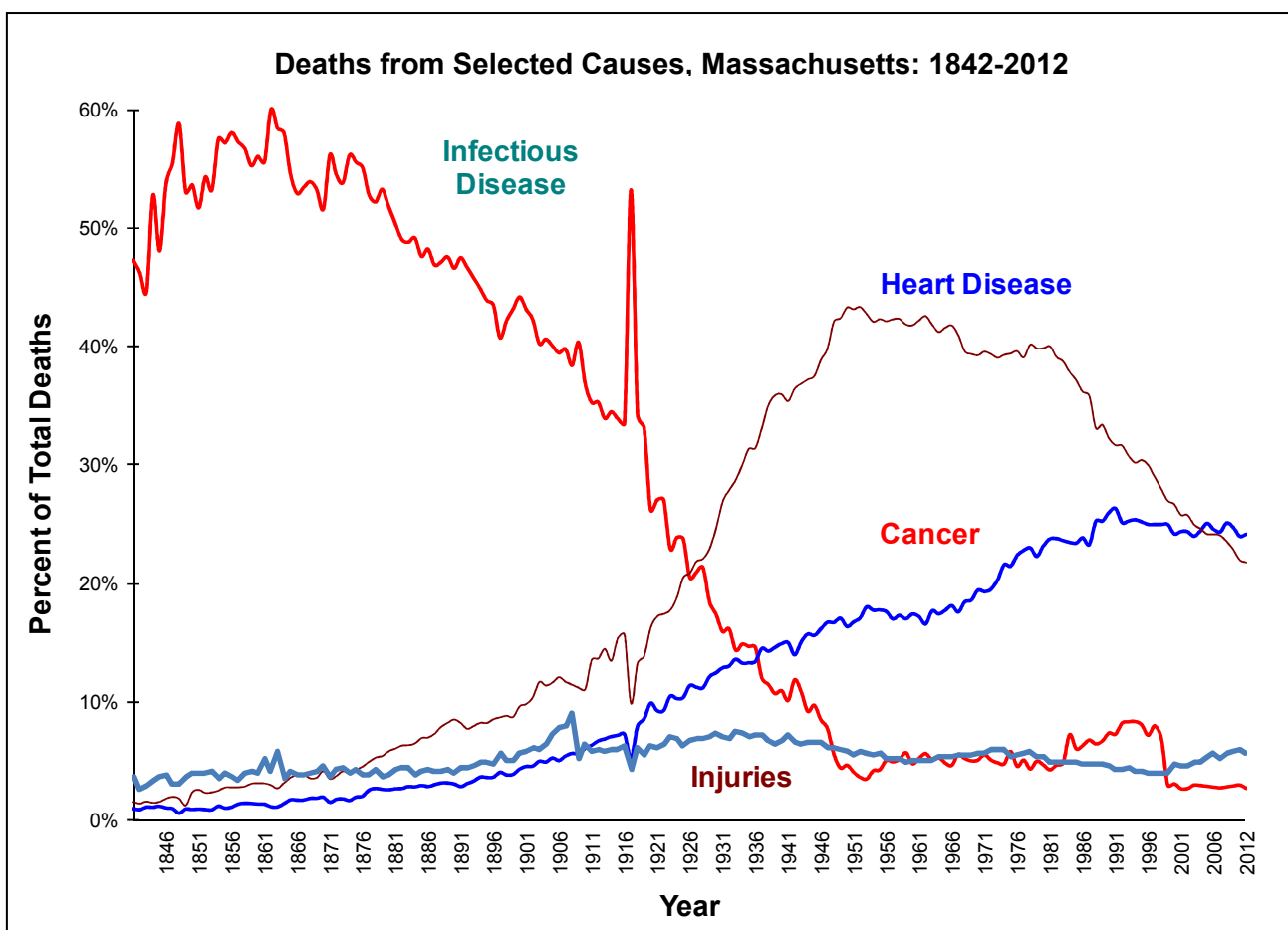

Massachusetts Deaths 2012: Data Brief



Office of Data Management and Outcomes Assessment

Massachusetts Department of Public Health

January 2015

Massachusetts Deaths 2012: Data Brief



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January 2015

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Introduction

This report presents detailed data on the number and characteristics of Massachusetts deaths in 2012. The data presented in this report can be used to monitor and evaluate the status and long-term trends in mortality and health of the population in Massachusetts. Furthermore, this report can be used to identify the groups within the Massachusetts population that are at greatest risk for death from specific diseases and injuries and to inform policies and programs directed toward these groups. It is important to note that variation in death rates among demographic groups, such as racial and ethnic groups, may reflect group differences such as socio-economic status, access to health care, and the prevalence of specific risk factors.

Methods

Data on mortality are based on information retrieved from death certificates filed with the Massachusetts Registry of Vital Records and Statistics. Physicians and medical examiners assign the cause of death through a system that allows for the possibility of multiple causes. Demographic information on the certificates, such as age, race, Hispanic ethnicity, gender, educational attainment, marital status, and occupation, is recorded by the funeral director based on information provided by an informant, usually a family member, or, in the absence of an informant, based on observation or omitted.

Resident data include all deaths that occur to residents of the Commonwealth, regardless of where the deaths occur. In Massachusetts, a resident is a person with a permanent address in one of the 351 cities and towns. Occurrence data include all deaths that occur within the state, whether to residents or nonresidents. All data in this publication are for Massachusetts residents unless otherwise stated. There is an exchange agreement among the 50 states, District of Columbia, Puerto Rico, US Virgin Islands, Guam, and Canadian provinces that provides for the exchange of copies of death records for persons dying in a state other than their state of residence. These records are used for statistical purposes only, and they allow each state or province to track the deaths of its residents.

The data in this publication refer to the underlying cause of death as generated by the Super Mortality Medical Indexing, Classification, and Retrieval system (Super MICAR), unless specifically noted. This is a computer software algorithm developed by the National Center for Health Statistics and used by all US jurisdictions so that the assignment of cause of death codes is consistent.

Throughout this report, both the number of deaths and age-adjusted rates are presented. The number of deaths is presented to highlight the overall public health burden of disease in the state. Disease rates are presented to allow for comparisons among groups so that we can better target our programs. All mortality rates were age-adjusted to the 2000 US Standard Population and are reported per 100,000 population.

Data on the cause and intent of injury deaths is generated through information listed in the cause and manner of death fields on official death certificates. Due to Massachusetts General Laws (MGL) reporting requirements, nearly all death certificates for individuals dying from an injury are completed by the Massachusetts Office of the Chief Medical Examiner (OCME). Policy changes affecting the classification of these deaths at the OCME can therefore affect the data reported for injury deaths.

In May 2005, there was a change in OCME policy regarding the classification of fatal poisonings (which includes acute intoxications and overdoses) where there is no evidence of suicide or homicide. The new policy states that fatal poisonings should be certified as “accidents”, that is unintentional events, rather than “undetermined” (old policy) if there is no evidence of suicide or homicide. This new policy brings Massachusetts policy in line with the policies in most other states. Prior to this policy change (affecting poisoning deaths in 2004 and at least 10 years prior), the manner of death in these cases was listed as “undetermined”. Because of this new policy, only 4% of all injuries in 2007 (3% in 2006) were classified as injuries of undetermined intent¹, compared with an average of 20% before 2005.

Comparison of rates is based on tests of statistical significance. Comparative words, for example, “higher,” “lower,” “increase,” and “decrease” are used only when the rates being compared are statistically different at $P \leq .05$ level.

¹ Injury death of undetermined intent means that the medical examiner lacked sufficient evidence to classify the deaths as homicide, suicide, or accidental.

Note to Readers

Please review the information below before reading the report.

1. **Population Sources.** Two sources of population estimates were used to calculate population-based rates in *Massachusetts Deaths 2012*:
 - a. **State and County Death Rates:** We used the 2011 Modified Age, Race/Ethnicity, and Sex (MARS) estimates, from the National Center for Health Statistics (NCHS) and the Census Bureau Population Estimates Program. Postcensal estimates of the resident population of the United States for July 1, 2010-July 1, 2011, by year, county, single-year of age (0, 1, 2, ..., 85 years and over), bridged race, Hispanic origin, and sex (Vintage 2011). Prepared under a collaborative arrangement with the U.S. Census Bureau. Available from: http://www.cdc.gov/nchs/nvss/bridged_race.htm as of July, 2012, following release by the U.S. Census Bureau of the unbridged Vintage 2011 postcensal estimates by 5-year age group on May 17, 2012.
 - b. **City and town death rates:** The Massachusetts Department of Public Health Race Allocated Census 2010 Estimates (MRACE 2010), which are population estimates based upon the Census 2010 Summary File 1, was used to calculate city and town rates. In this estimates file, the Census 2010 race categories, "Two or more races" and "Some other race" are redistributed to the MDPH standard race categories: Non-Hispanic White, Non-Hispanic Black, Non-Hispanic Asian and Pacific Islander, and Non-Hispanic American Indian and Alaska Native. All persons in the Census 2010 Hispanic ethnicity category are counted as "Hispanic" race in the MDPH estimates. This kind of file is often referred to as a "bridged" file, that is, one that bridges the new race and ethnicity collections to the conventionally used categories.
2. **Resident deaths.** All data in this publication are resident data unless otherwise stated. Resident data include all events that occur to residents of the Commonwealth, wherever they occur.
3. **Opioid deaths.** Given the interest on opioid deaths, tables 44-46 have been modified to include opioid deaths by town, CHNA and county.
4. **Race and Ethnicity.** In the text, the race categories, White, Black, American Indian, Asian, and Hispanic are mutually exclusive, for example, when we refer to White residents, this means White non-Hispanic residents.
5. **Comparisons with National Death Statistics.** Because US death statistics for 2012 were not available at the time of publication of this report, we are using the national statistics from 2011. Although a direct comparison cannot be made between statistics from different years, we are presenting the US statistics for 2011 to give a sense how Massachusetts statistics differ from those of the US .

Suggested Citation

Massachusetts Deaths 2012: Data Brief. Boston, MA: Office of Data Management and Outcomes Assessment, Massachusetts Department of Public Health. January 2015.

Table 1. Trends in Mortality Characteristics, Massachusetts: 2002-2012

Year		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Resident deaths¹	Number	56,881	56,194	54,419	53,776	53,293	52,690	53,341	51,915	52,420	53,536	53,169
	Crude rate ^{2,3,4}	887.0	875.2	848.1	840.4	827.9	816.9	820.9	787.4	800.6	812.7	807.1
	Age-adjusted rate ⁵	793.8	772.6	739.3	720.6	717.6	704.4	703.5	675.1	672.7	674.0	669.2
Race/ethnicity of decedent^{6,7}												
White non-Hispanic	Number	52,839	52,050	50,439	49,639	49,132	48,518	49,059	47,520	48,010	48,844	48,430
	Percent ⁸	92.9	92.6	92.7	92.3	92.2	92.1	92.0	91.5	91.6	91.2	91.1
	Age-adjusted rate	796.0	775.2	744.7	725.0	723.3	711.1	710.7	682.8	684.4	686.9	681.0
Black non-Hispanic	Number	2,275	2,378	2,225	2,263	2,233	2,211	2,222	2,288	2,278	2,333	2,318
	Percent ⁸	4.0	4.2	4.1	4.2	4.2	4.2	4.2	4.4	4.3	4.4	4.4
	Age-adjusted rate	935.6	949.1	866.2	865.8	838.4	820.5	805.8	812.2	702.6	707.6	701.8
Asian non-Hispanic	Number	531	579	531	570	635	610	692	697	759	806	811
	Percent ⁸	0.9	1.0	1.0	1.1	1.2	1.2	1.3	1.3	1.4	1.5	1.5
	Age-adjusted rate	397.6	411.9	353.7	345.0	379.0	342.0	372.5	353.1	364.8	375.2	372.4
Hispanic	Number	1,166	1,121	1,115	1,230	1,194	1,264	1,275	1,337	1,308	1,477	1,487
	Percent ⁸	2.0	2.0	2.1	2.3	2.2	2.4	2.4	2.6	2.5	2.8	2.8
	Age-adjusted rate	591.0	520.6	482.1	500.4	479.9	477.7	458.2	439.8	443.9	468.9	484.9
Gender of decedent⁷												
Female	Number	30,427	30,053	29,067	28,695	28,508	27,851	28,246	27,356	27,368	27,983	27,883
	Age-adjusted rate	674.4	659.3	632.3	617.8	612.7	596.3	595.9	572.8	567.2	572.8	571.1
Male	Number	26,454	26,141	25,352	25,079	24,785	24,838	25,095	24,557	25,051	25,553	25,280
	Age-adjusted rate	955.1	923.3	878.0	852.5	858.9	853.3	852.2	822.1	811.9	808.5	797.9
Age of decedent⁷												
<1 year	Number	397	383	376	391	369	380	381	366	319	310	309
1-14 years	Number	167	149	137	113	124	128	119	118	113	114	99
15-24 years	Number	460	490	517	489	471	505	421	440	453	471	419
25-44 years	Number	2,490	2,484	2,247	2,173	1,953	2,023	1,906	1,974	1,823	1,870	1,880
45-64 years	Number	8,344	8,476	8,347	8,355	8,660	8,560	8,426	8,688	8,753	8,808	8,791
65-74 years	Number	8,922	8,611	8,126	7,905	7,572	7,494	7,425	7,380	7,423	7,616	7,891
75-84 years	Number	17,262	16,973	16,342	15,632	15,333	14,781	14,970	13,943	13,639	13,598	13,272
85+ years	Number	18,838	18,627	18,327	18,718	18,811	18,816	19,692	19,004	19,888	20,747	20,506

1. Deaths presented in all tables and figures are resident deaths. 2. Deaths per 100,000 residents. 3. See Glossary for further definition of terms and rates. 4. Rate calculations are based on resident population estimates. 5. Rates are age-adjusted per 100,000 residents using the 2000 US standard population. 6. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see the Technical Notes in the Appendix for a more detailed explanation.

7. Column sum may not equal total because the race, gender or age of some decedents was unknown. 8. Percent of all resident deaths in that year.

**Table 2. Five of the Leading Causes of Death, Age-Adjusted Rates,
Massachusetts and United States: 2000-2012**

Year ¹	Age-Adjusted Rates	Heart Disease		Cancer		Stroke	
		MA	US	MA	US	MA	US
2000	Rate	216.7	258.2	206.1	200.9	50.9	60.9
	% of Total	27.1	29.5	24.8	23.0	6.4	6.9
2001	Rate	211.0	247.7	200.0	195.8	46.7	57.9
	% of Total	26.7	28.9	24.2	22.9	6.2	6.8
2002	Rate	201.1	240.4	200.1	194.0	48.1	56.3
	% of Total	26.0	28.4	24.0	22.8	6.0	6.7
2003	Rate	196.6	232.3	193.0	190.1	45.0	53.5
	% of Total	26.0	28.0	24.1	22.7	6.0	6.5
2004	Rate	182.8	217.0	188.4	185.8	42.5	50.0
	% of Total	25.3	27.2	24.5	23.1	6.0	6.3
2005	Rate	172.2	211.0	184.9	183.8	38.1	46.6
	% of Total	24.6	26.6	24.5	22.8	5.5	5.9
2006	Rate	168.8	199.4	186.3	180.8	36.7	43.6
	% of Total	24.2	25.9	25.1	23.1	5.4	5.7
2007	Rate	165.7	190.9	179.2	178.4	35.0	42.2
	% of Total	24.2	25.9	24.6	23.1	5.1	5.7
2008	Rate	165.5	186.5	177.8	175.3	33.7	40.7
	% of Total	24.1	25.4	24.4	23.2	4.9	5.6
2009	Rate	155.2	179.8	174.0	173.6	32.2	38.9
	% of Total	23.6	24.6	25.1	23.3	4.9	5.3
2010	Rate	149.4	178.5	171.0	172.5	31.2	39.0
	% of Total	22.9	24.1	24.7	23.3	4.8	5.2
2011	Rate	144.4	173.7	166.1	173.7	30.2	37.9
	% of Total	22.1	23.7	24.0	23.7	4.6	5.1
2012	Rate	141.3	173.7	166.7	173.7	28.7	37.9
	% of Total	21.8	23.7 ²	24.2	23.7 ²	4.4	5.1 ²

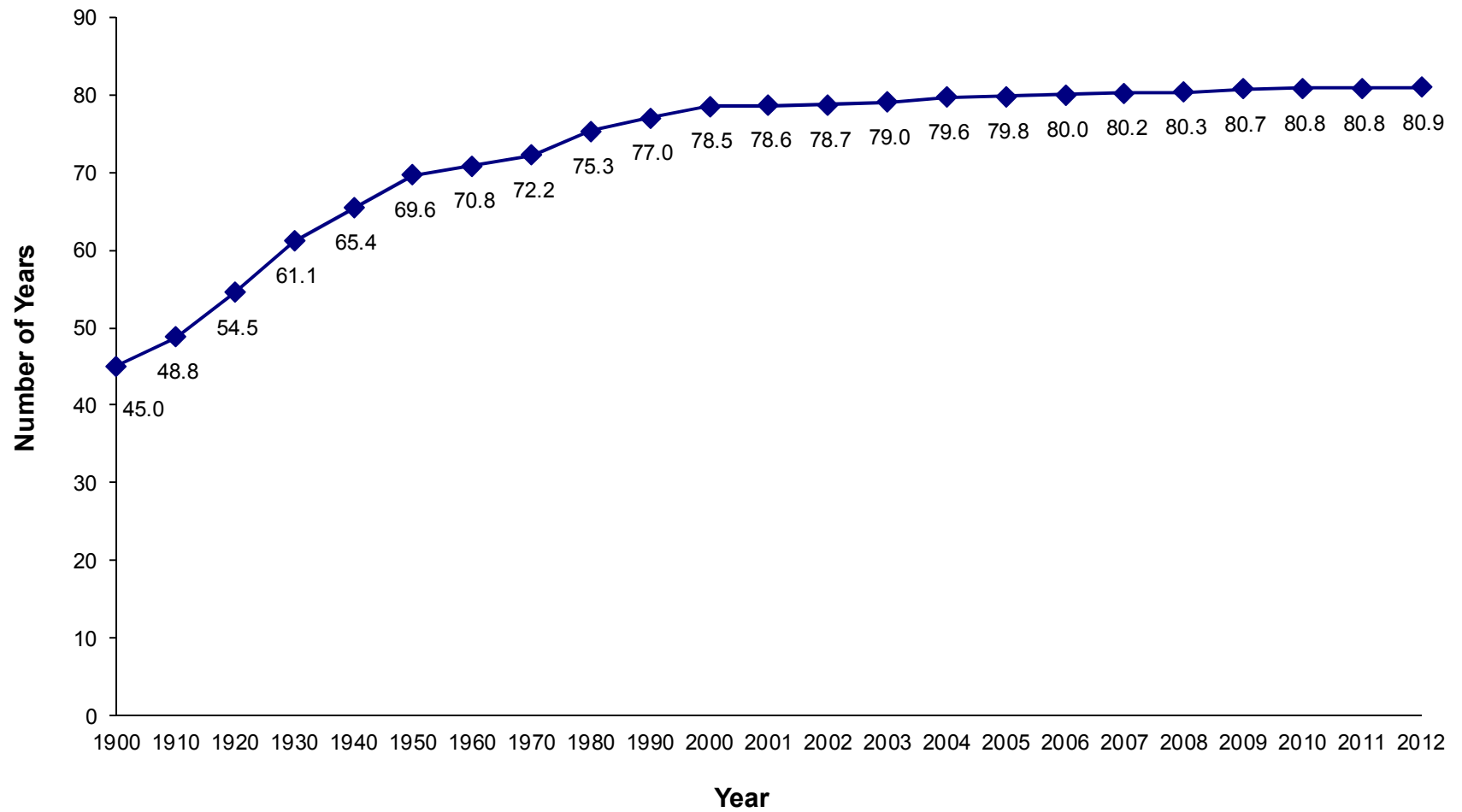
Note: Cause of death: the disease or injury that initiated the events leading to death; or the circumstances of the unintentional or intentional injury that resulted in the death.
1. Data coded according to ICD-10. ICD-9 and ICD-10 codes used in this publication are listed in the Appendix. 2. US data for 2011 and 2012 obtained from NCHS. Deaths: Preliminary Data for 2011. NCHS, October 2012. Volume 61, Number 6.

Table 2 (continued). Five of the Leading Causes of Death¹, Age-Adjusted Rates, Massachusetts and United States: 2000-2012

Year ¹	Age-Adjusted Rates	Influenza/Pneumonia		Unintentional Injuries		All Causes	
		MA	US	MA	US	MA	US
2000	Rate	29.1	23.7	20.2	35.6	812.2	872.0
	% of Total	3.7	2.8	2.4	3.9		
2001	Rate	24.0	21.8	21.9	34.3	803.5	855.0
	% of Total	3.1	2.6	2.6	4.0		
2002	Rate	27.3	22.7	20.5	35.3	793.8	846.8
	% of Total	4.0	2.7	2.0	4.2		
2003	Rate	26.0	22.0	20.1	37.3	772.6	832.7
	% of Total	3.6	2.7	2.5	4.3		
2004	Rate	24.9	19.8	19.4	37.7	739.3	800.8
	% of Total	3.6	2.5	2.5	4.7		
2005	Rate	24.2	20.3	27.4	39.1	720.6	798.8
	% of Total	3.6	2.6	3.5	4.8		
2006	Rate	22.0	17.7	31.4	38.5	717.6	776.4
	% of Total	3.3	2.3	4.1	4.8		
2007	Rate	19.4	16.2	30.5	40.0	704.4	760.2
	% of Total	2.9	2.3	4.0	4.9		
2008	Rate	20.0	16.9	28.6	38.8	703.5	758.3
	% of Total	3.0	2.2	3.8	5.1		
2009	Rate	16.8	16.2	28.5	37.0	675.1	741.0
	% of Total	2.6	2.2	3.9	4.8		
2010	Rate	15.9	15.1	28.3	37.1	672.7	746.2
	% of Total	2.5	2.0	3.9	4.8		
2011	Rate	16.9	17.2	30.0	39.4	674.0	740.6
	% of Total	2.6	2.1	4.1	4.9		
2012	Rate	16.3	17.2	30.0	39.4	669.2	740.6 ²
	% of Total	2.6	2.1 ²	4.1	4.9 ²		

Note: Cause of death: the disease or injury that initiated the events leading to death; or the circumstances of the unintentional or intentional injury that resulted in the death.
 1. Data coded according to ICD-10. ICD-9 and ICD-10 codes used in this publication are listed in the Appendix. 2. US data for 2011 and 2012 obtained from NCHS. Deaths: Preliminary Data for 2011. NCHS, October 2012. Volume 61, Number 6.

Figure 1. Life Expectancy at Birth, Massachusetts: 1900-2012



Note: Life Expectancy at birth calculated using the Greville Abridged Life Table Method (source: Dublin LI. Length of Life - A Study of the Life Table. Ronald Press Co. New York. 1949).

Figure 2. Expected Years of Life Remaining at Different Ages by Race and Hispanic Ethnicity, Massachusetts: 2012

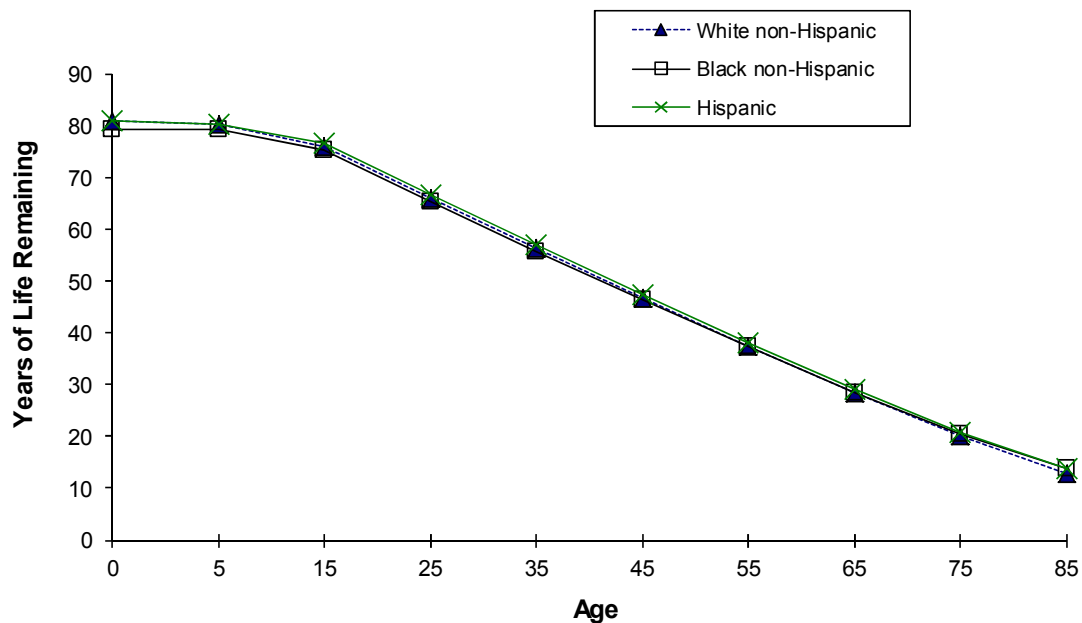
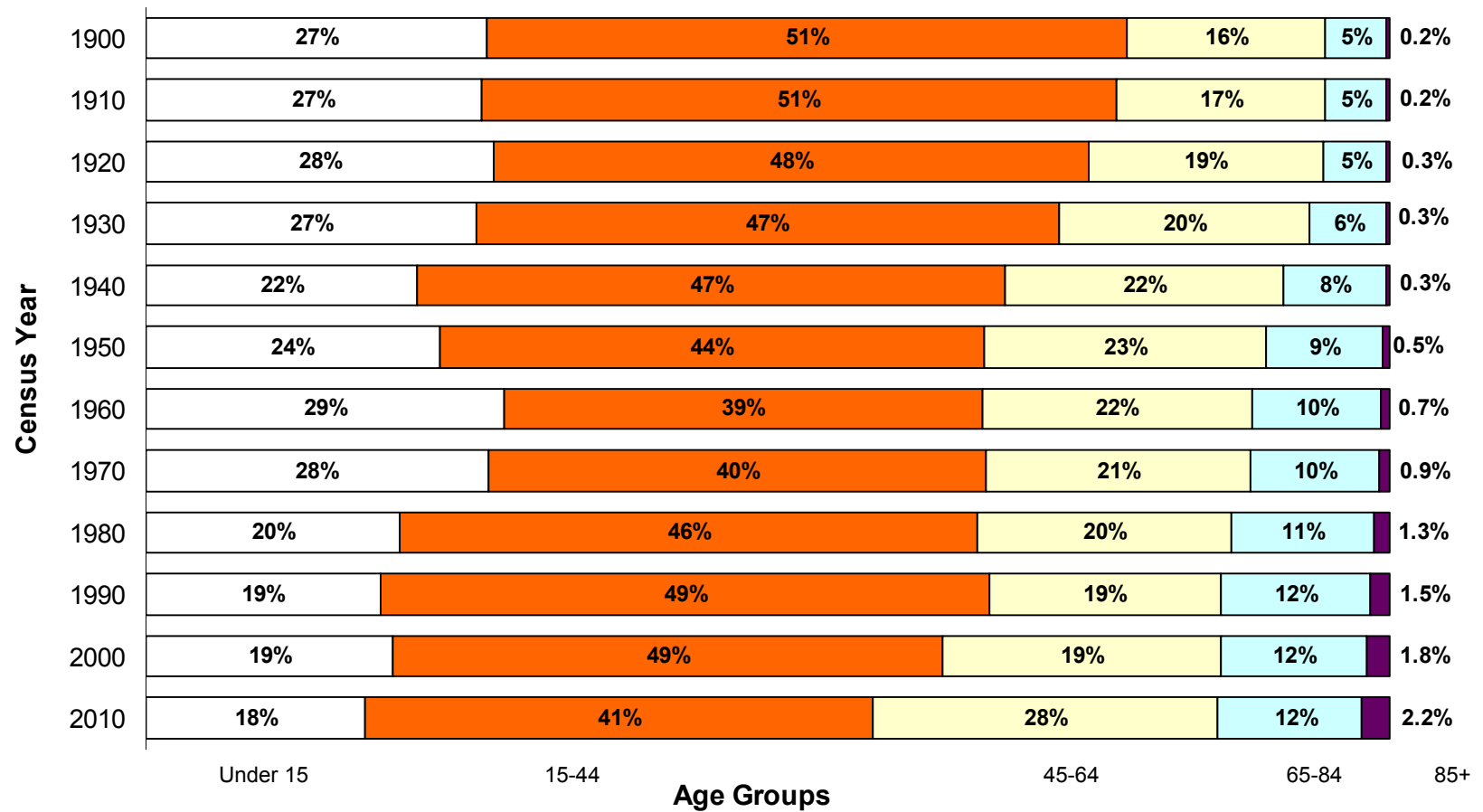


Table 3. Years of Life Remaining¹ by Race² and Hispanic Ethnicity and Gender, Massachusetts: 2012

At Age:	All	Females	White non-Hispanic	Black non-Hispanic	Hispanic	Males	White non-Hispanic	Black non-Hispanic	Hispanic
			Females	Females	Females		Males	Males	Males ²
Birth	80.9	83.0	82.9	82.3	88.8	78.6	78.6	76.5	82.3
1 year old	80.3	82.4	82.1	81.9	88.2	78.0	77.8	76.2	81.9
5 years old	76.3	78.4	78.2	78.0	84.2	74.0	73.8	72.3	77.9
15 years old	66.4	68.5	68.3	68.0	74.2	64.0	63.8	62.3	68.0
25 years old	56.6	58.7	58.4	58.3	64.4	54.4	54.1	53.0	58.3
35 years old	47.0	48.9	48.7	48.6	54.7	44.9	44.7	43.9	48.8
45 years old	37.6	39.4	39.1	39.2	45.1	35.6	35.4	34.9	39.4
55 years old	28.6	30.1	29.9	30.1	35.8	26.8	26.7	26.2	30.8
65 years old	20.2	21.4	21.2	21.8	26.9	18.8	18.6	18.9	22.9
75 years old	12.9	13.7	13.5	14.5	19.4	11.8	11.6	12.9	16.8
85 years old	7.3	7.7	7.6	8.4	14.7	6.6	6.4	8.5	10.9

1. Years of Life Remaining calculated using the Greville Abridged Life Table Method (source: Dublin LI. Length of Life - A Study of the Life Table. Ronald Press Co. New York. 1949). 2. Population estimates are from 2011 bridged population file, MARS (Modified Age, Race/Ethnicity, and Sex) file. There are well-known difficulties in calculating accurate mortality rates for Massachusetts smaller populations such as Asians, Native Americans and Hispanics- please use caution.

Figure 3. Changes in Age Composition of the Population, Massachusetts: 1900-2010



Source: US Census Bureau 1900-1999. Resident death data for 2000 are calculated using the Massachusetts (Department of Public Health) Modified Age, Race/Ethnicity, & Sex Estimates 2000 (MMARS00), released October 2006. Population estimates for 2010 are from the NCHS Modified Age, Race/Ethnicity, & Sex Estimates 2009, released July 2010.

Figure 4. Trends in Percentage of Deaths from Selected Causes, Massachusetts: 1842-2012

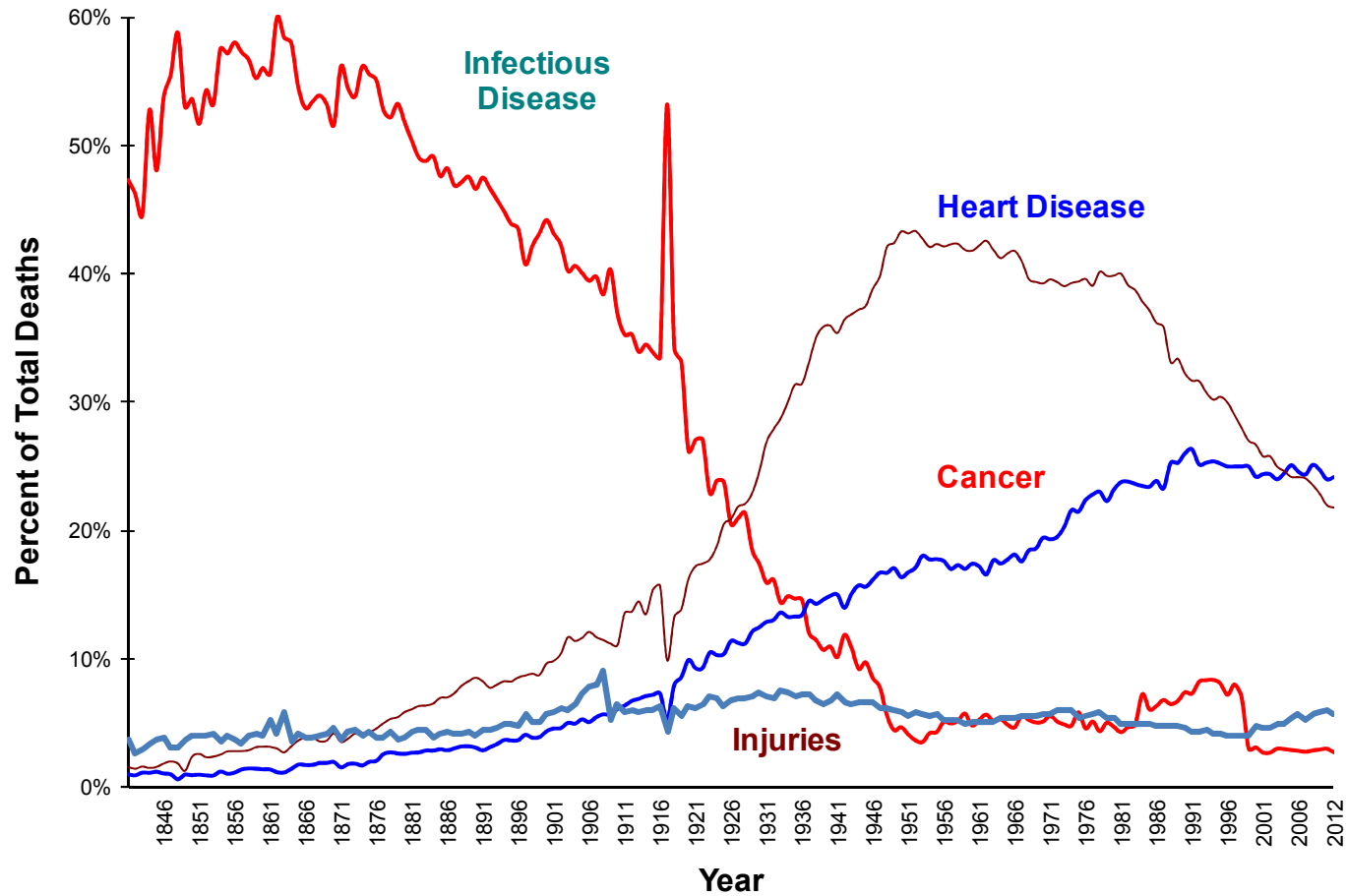
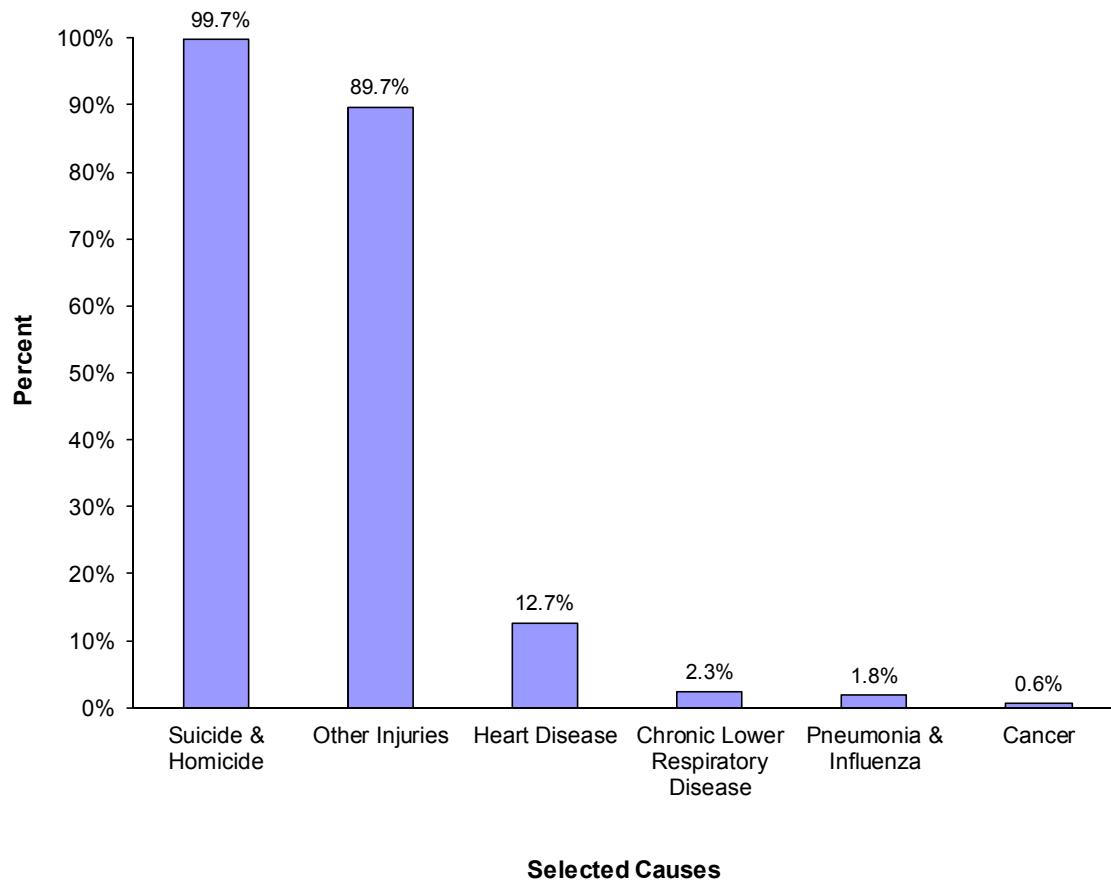


Table 4. Distribution of Deaths by Place of Occurrence, Massachusetts: 2008-2012

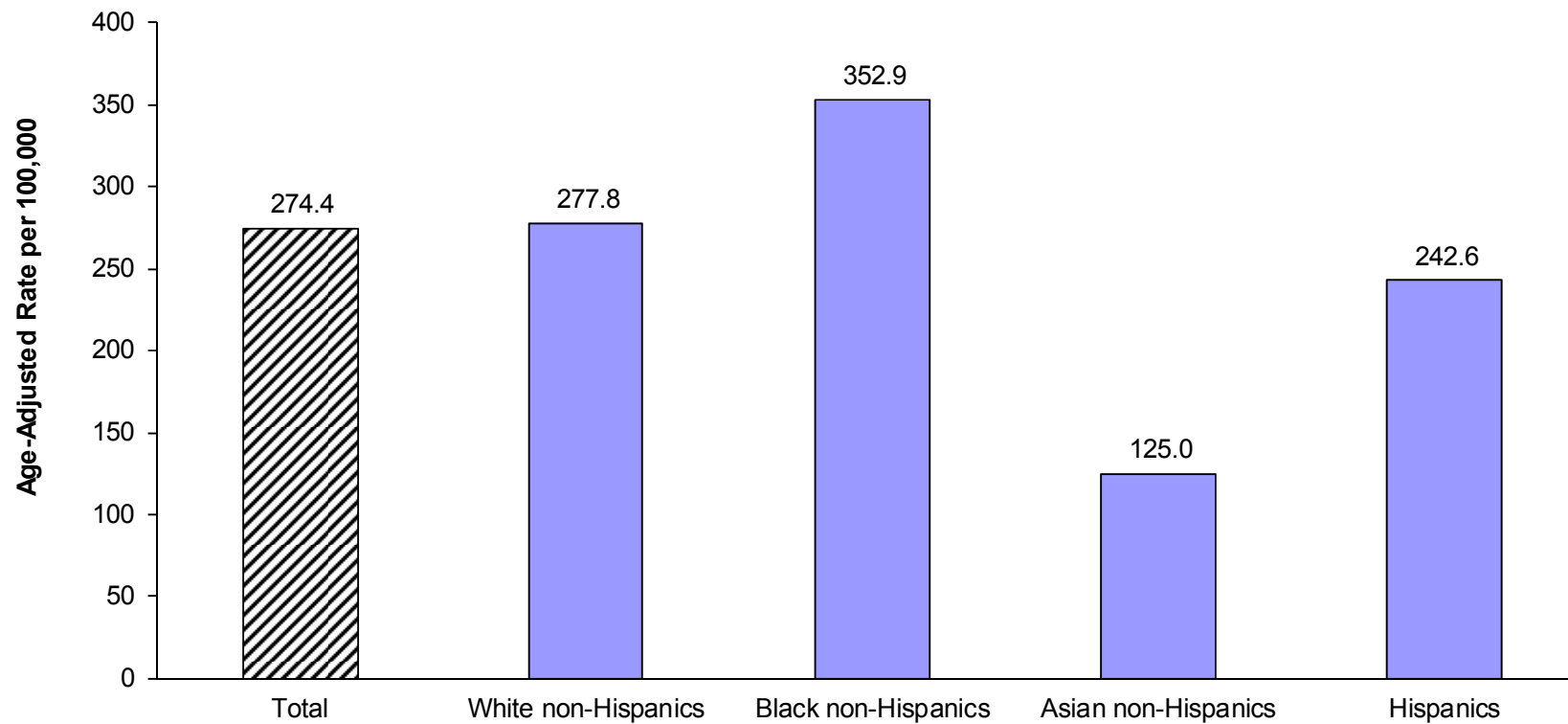
Type of Place where Death Occurred	2008		2009		2010		2011		2012	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Hospital (inpatient/outpatient)	22,301	42%	21,197	41%	20,668	39%	20,511	38%	19,963	38%
Dead on Arrival	585	1%	504	1%	454	1%	525	1%	623	1%
Nursing Home	16,098	30%	15,185	29%	15,261	29%	15,870	30%	15,377	29%
At Home	12,490	23%	12,940	25%	13,481	26%	13,986	26%	14,553	27%
Other	1,820	3%	2,060	4%	2,545	5%	2,638	5%	2,624	5%
Unknown	47	0.1%	29	0.1%	11	0.02%	6	0.01%	29	0.05%

Figure 5. Proportion of Deaths Certified by Medical Examiner for Selected Causes of Death, Massachusetts: 2012



See the Appendix section, "Circumstance for Referral to the Office of the Chief Medical Examiner (OCME)" for a list of circumstances requiring referral to the Medical Examiner's Office.

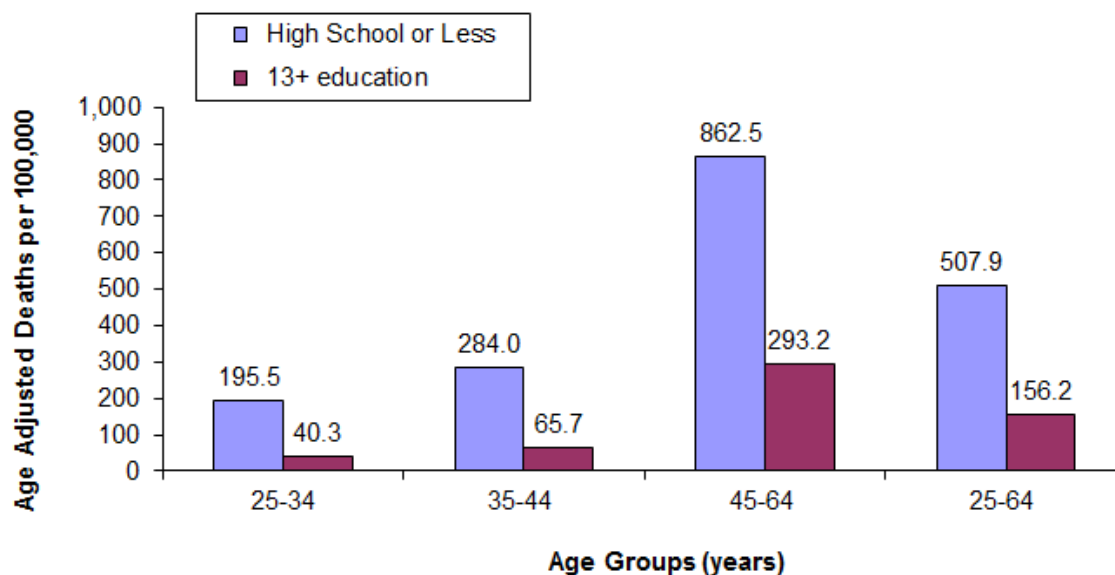
Figure 6. Premature Mortality Rate (PMR) by Race and Hispanic Ethnicity, Massachusetts: 2012



Note: Premature Mortality Rate is defined as deaths that occur before the age of 75 years per 100,000, age-adjusted to the 2000 US standard population under 75 years of age.

Table 5. Age-Adjusted Death Rates for Ages 25-64 Years by Educational Attainment, Massachusetts: 2012

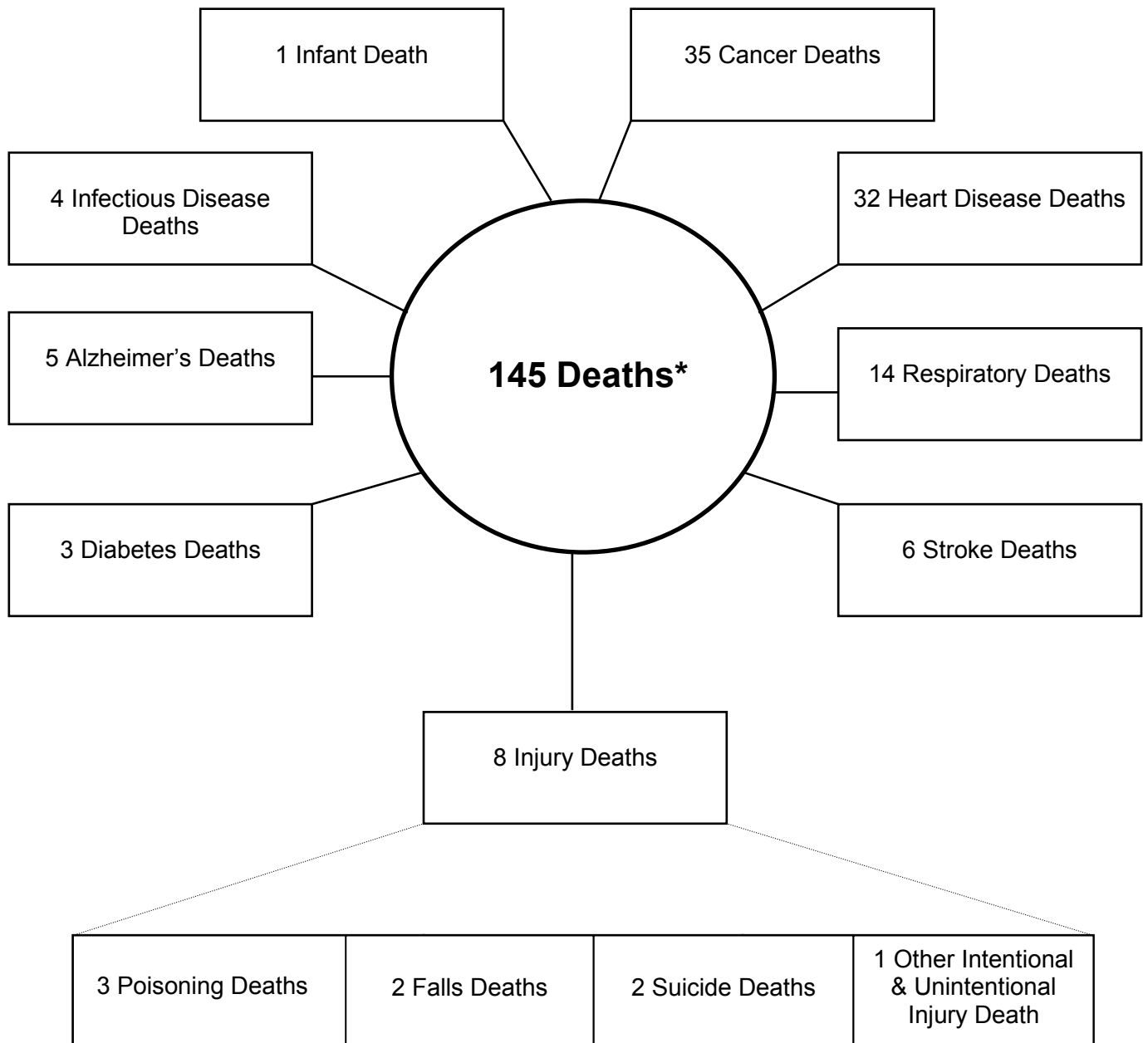
	<u>Age-Specific Rates</u>			<u>Age-Adjusted Rates</u>
	25-34 years	35-44 years	45-64 years	25-64 years
Years of School Completed				
High school or less	195.5	284.0	862.5	507.9
13+ Education	40.3	65.7	293.2	156.2



Source: C15001: SEX BY AGE BY EDUCATIONAL ATTAINMENT FOR THE POPULATION 18 YEARS AND OVER - Universe: Population 18 Years And Over. 2009-2011 American Community Survey 3-Year Estimates.

Figure 7. Daily Mortality Statistics, Massachusetts: 2012

Every day in 2012, in Massachusetts there were on average:



*includes 37 deaths due to other causes.

Table 6. Top Ten Leading Underlying Causes of Death by Age, Massachusetts: 2012

	<u>Age Groups (number of deaths)</u>								
Rank¹	<1 year	1-14 years	15-24 years	25-44 years	45-64 years	65-74 years	75-84 years	85+ years	All
1	Short Gestation and LBW (57)	Cancer (26)	Unintentional Injuries (161)	Unintentional Injuries (538)	Cancer (3,149)	Cancer (3,158)	Cancer (3,602)	Heart Disease (5,557)	Cancer (12,850)
2	Congenital Malformations (53)	Unintentional Injuries (15)	Suicide (81)	Cancer (275)	Heart Disease (1,612)	Heart Disease (1,428)	Heart Disease (2,759)	Cancer (2,610)	Heart Disease (11,586)
3	Pregnancy Complications (30)	Ill-defined conditions, signs, and symptoms (11)	Homicide (45)	Heart Disease (203)	Unintentional Injuries (575)	Chronic Lower Respiratory Disease (493)	Chronic Lower Respiratory Disease (900)	Stroke (1,251)	Chronic Lower Respiratory Disease (2,520)
4	Complications of Placenta (20)	Congenital Malformations (9)	Cancer (29)	Suicide (203)	Chronic Liver Disease (328)	Stroke (249)	Stroke (628)	Alzheimer's Disease (1,166)	Stroke (2,360)
5	SIDS (12)	Heart Disease (7)	Ill-defined conditions, signs, and symptoms (19)	Ill-defined conditions, signs, and symptoms (99)	Suicide (261)	Diabetes (230)	Alzheimer's Disease (447)	Chronic Lower Respiratory Disease (880)	Unintentional Injuries (2,186)
6	Bacterial Sepsis of Newborn (6)	In situ Neoplasms (4)	Heart Disease (17)	Homicide (62)	Diabetes (237)	Nephritis (188)	Nephritis (369)	Influenza & Pneumonia (761)	Alzheimer's Disease (1,711)
7	Neonatal Hemorrhage (6)	Suicide (3)	Congenital Malformations (6)	Chronic Liver Disease (51)	Chronic Lower Respiratory Disease (233)	Unintentional Injuries (158)	Influenza & Pneumonia (329)	Nephritis (578)	Influenza & Pneumonia (1,356)
8	Necrotizing enterocolitis (6)	Chronic Lower Respiratory Disease (2)	Other infections (3)	Diabetes (33)	Stroke (208)	Influenza & Pneumonia (138)	Unintentional Injuries (287)	Ill-defined conditions, signs, and symptoms (514)	Nephritis (1,267)
9	Respiratory Distress (5)	Other Infections (1)	Nephritis (3)	Stroke (24)	Ill-defined conditions, signs, and symptoms (164)	Septicemia (130)	Diabetes (268)	Unintentional Injuries (449)	Ill-defined conditions, signs, and symptoms (1,120)
10	Hydrops Fetalis (4)	Anemias (1)	Anemias (2)	Injuries of Undetermined Intent (19)	Septicemia (117)	Chronic Liver Disease (111)	Septicemia (238)	Diabetes (329)	Diabetes (1,098)
All Causes	309	99	419	1,880	8,791	7,891	13,272	20,506	53,169

1. Ranking based on number of deaths. The number of deaths is shown in parentheses.

Note: Injuries are subdivided into 4 separate categories by intent: unintentional, homicide, suicide, and injuries of undetermined intent (deaths where investigation has not determined whether injuries were accidental or purposely inflicted).

Table 7. Leading Underlying Causes of Death, Numbers and Age-Specific Rates by Gender, Massachusetts: 2012

Age	Cause of Death ¹	<u>Total</u>		<u>Female</u>		<u>Male</u>	
		Number	Rate ²	Number	Rate ²	Number	Rate ²
1-14 years	TOTAL	99	9.2	47	8.9	52	9.5
	Cancer	26	2.4	13	2.5	13	2.4
	Unintentional Injuries	15	1.4	6	1.1	9	1.6
	Ill-Defined Conditions	11	1.0	6	1.1	5	0.9
	Congenital Malformations	9	0.8	4	-- ⁵	5	0.9
15-24 years	TOTAL	419	44.8	136	29.3	283	60.2
	Unintentional Injuries	161	17.2	50	10.8	111	23.6
	Suicide	81	8.7	28	6.0	53	11.3
	Homicide	45	4.8	7	1.5	38	8.1
	Cancer	29	3.1	10	2.2	19	4.0
25-44 years	TOTAL	1,880	108.4	654	74.1	1,226	144.0
	Unintentional Injuries	538	31.0	144	16.3	394	46.3
	Cancer	275	15.9	151	17.1	124	14.6
	Heart Disease	203	11.7	67	7.6	136	16.0
	Suicide	203	11.7	67	7.6	136	16.0
45-64 years	TOTAL	8,791	475.8	3,336	349.9	5,454	610.0
	Cancer	3,149	170.5	1,467	153.9	1,682	188.1
	Heart Disease	1,612	87.3	438	45.9	1,173	131.2
	Unintentional Injuries	575	31.1	163	17.1	412	46.1
	Chronic Liver Disease	328	17.8	96	10.1	232	25.9
65+ years⁴	TOTAL	41,669	4,520.0	23,576	4,407.7	18,090	4,674.4
	Heart Disease	9,744	1,057.0	5,324	995.4	4,419	1,141.9
	Cancer	9,370	1,016.4	4,766	891.0	4,604	1,189.7
	Chronic Lower Respiratory Disease	2,273	246.6	1,337	250.0	936	241.9
	Stroke	2,128	230.8	1,386	259.1	742	191.7

1. Cause of Death classified using ICD-10 ranked based on number of deaths for all persons at specific age group. See Appendix for a list of ICD-10 codes. 2. Number of deaths per 100,000 residents in each age group. 3. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title). 4. See Table 8 for leading causes of death for detailed age groups for persons ages 65+ years. 5. Calculations based on values 1-4 are excluded.

Table 8. Leading Underlying Causes of Death, Numbers and Age-Specific Rates (Ages 65 and older) by Gender, Massachusetts: 2012

Age	Cause of Death ¹	Total		Female		Male	
		Number	Rate ²	Number	Rate ²	Number	Rate ²
65-74 years	TOTAL	7,891	1,666.6	3,478	1,357.3	4,413	2,031.3
	Cancer	3,158	1,666.6	1,469	573.3	1,689	777.5
	Heart Disease	1,428	667.0	502	195.9	926	426.2
	Chronic Lower Respiratory Disease ³	493	301.6	259	101.1	234	107.7
	Stroke	249	104.1	121	47.2	128	58.9
75-84 years	TOTAL	13,272	4,449	6,782	3,859	6,489	5,294
	Cancer	3602	1207.4	1,804	1,027	1,798	1,467
	Heart Disease	2759	924.8	1,292	735	1,466	1,196
	Chronic Lower Respiratory Disease ³	900	301.7	524	298	376	307
	Stroke	628	210.5	363	207	265	216
85+ years	Total	20,506	13,664	13,316	12,940	7,188	15,237
	Heart Disease	5,557	3,703	3,530	3,430	2,027	4,297
	Cancer	2,610	1,739	1,493	1,451	1,117	2,368
	Stroke	1,251	834	902	877	349	740
	Alzheimer's Disease	1,166	777	864	840	301	638

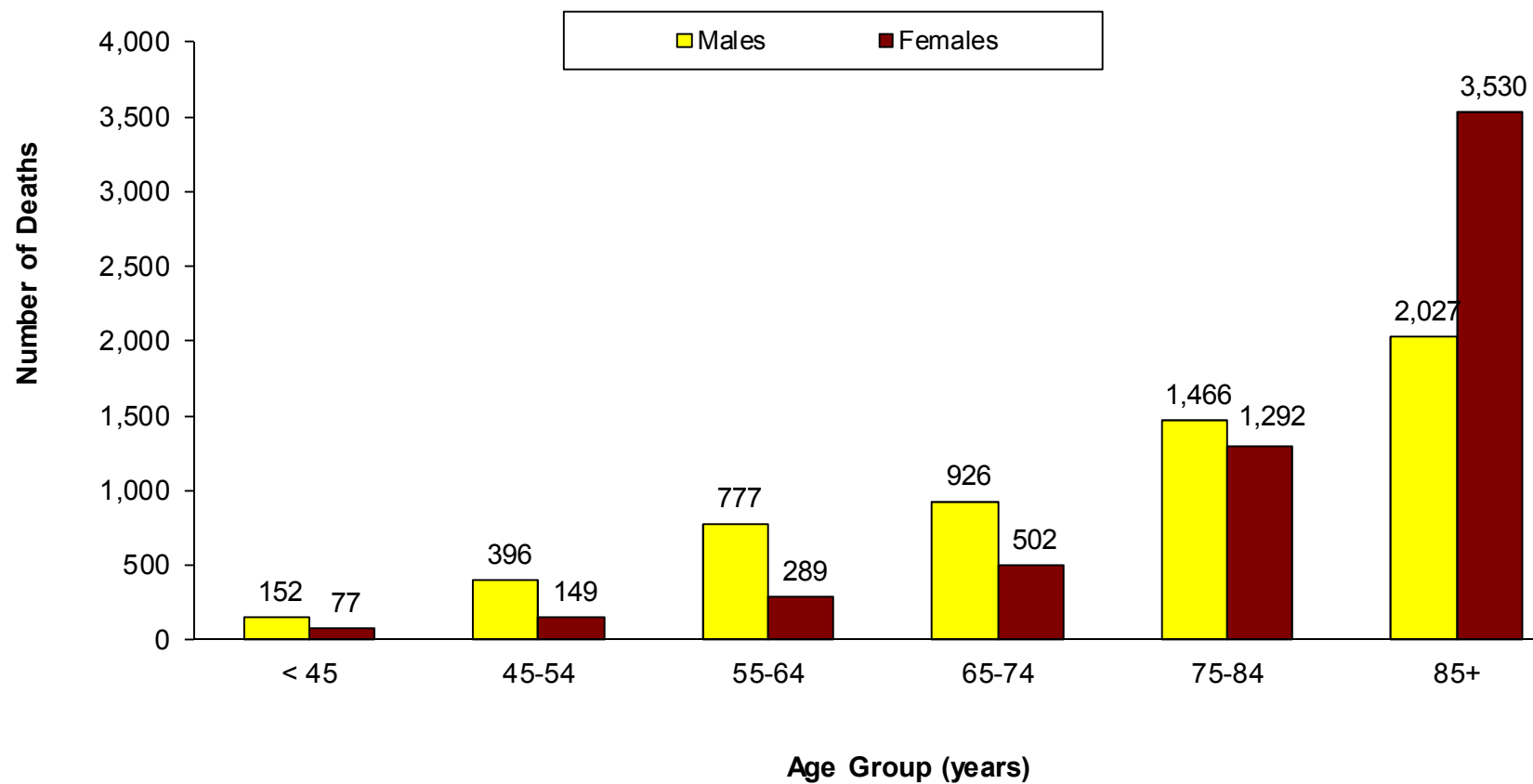
1. Cause of Death classified according to ICD-10 ranked based on number of deaths for all persons at specific age group. See Appendix for a list of-10 codes. 2. Number of deaths per 100,000 residents in each age group. 3. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title).

Table 9. Leading Causes of Death¹ and Age-Adjusted Death Rates by Race and Hispanic Ethnicity, Massachusetts: 2012

White non-Hispanic²			Black non-Hispanic²			Asian non-Hispanic²			Hispanic²		
Cause³	#	Rate⁴	Cause³	#	Rate⁴	Cause³	#	Rate⁴	Cause³	#	Rate⁴
Total	48,430	681.0	Total	2,318	701.8	Total	811	372.4	Total	1,487	484.9
Cancer	11,630	170.2	Cancer	604	180.6	Cancer	249	104.6	Cancer	343	117.7
Heart Disease	10,763	144.7	Heart Disease	458	144.3	Heart Disease	121	57.1	Heart Disease	224	85.8
Chronic Lower Respiratory Disease ⁵	2,417	34.2	Stroke	107	36.1	Stroke	54	27.0	Unintentional Injuries ⁶	92	20.2
Stroke	2,125	28.1	Unintentional Injuries ⁶	107	25.8	Unintentional Injuries ⁶	36	13.5	Stroke	66	24.7
Unintentional Injuries ⁶	1,940	32.5	Diabetes	103	32.0	Nephritis	32	16.7	Diabetes	58	20.5
Alzheimer's Disease	1,618	20.6	Nephritis	82	26.6	Alzheimer's Disease	26	15.9	Ill-defined conditions, signs, and symptoms	55	10.5
Influenza & Pneumonia	1,270	16.7	Homicide	54	10.8	Ill-defined conditions, signs, and symptoms	25	11.3	Chronic Liver Disease	39	9.6
Nephritis	1,113	15.2	Alzheimer's Disease	46	17.2	Chronic Lower Respiratory Disease ⁵	24	13.4	Perinatal conditions	39	4.2
Ill-defined conditions, signs, and symptoms	981	14.1	Ill-defined conditions, signs, and symptoms	46	12.1	Diabetes	20	9.2	Chronic Lower Respiratory Disease ⁵	38	16.7
Diabetes	912	12.9	Hypertension	41	13.4	Suicide	18	5.4	Nephritis	38	15.4
<u>Total</u>											
Cause³			#			Rate⁴					
Total			53,169			669.2					
Cancer			12,850			166.7					
Heart Disease			11,586			141.3					
Chronic Lower Respiratory Disease ⁵			2,520			32.3					
Stroke			2,360			28.7					
Unintentional Injuries ⁶			2,186			30.0					
Alzheimer's Disease			1,711			20.1					
Influenza & Pneumonia			1,356			16.3					
Nephritis			1,267			15.7					
Ill-defined conditions, signs, and symptoms			1,120			14.3					
Diabetes			1,098			13.9					

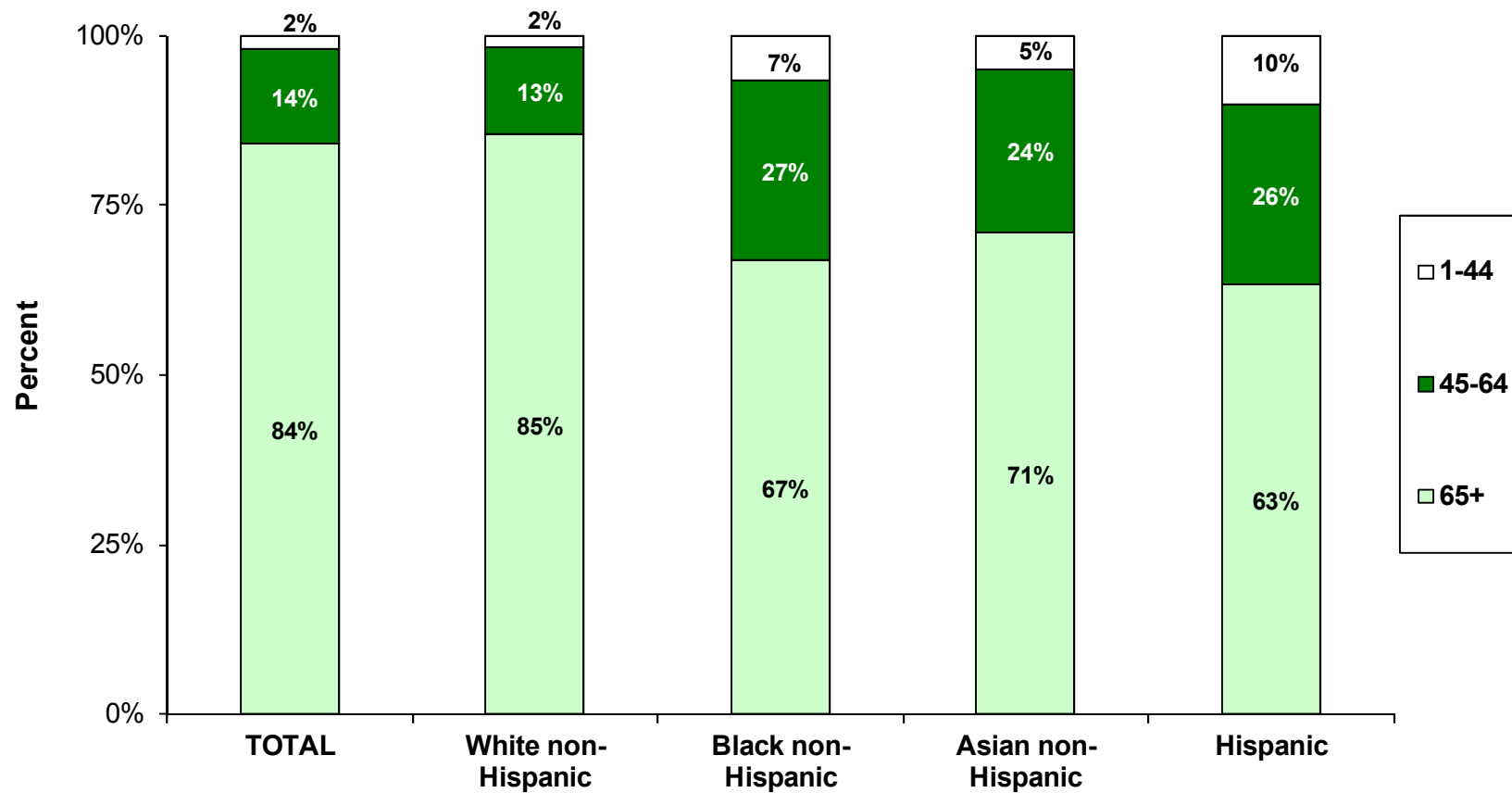
1. Ranking based on number of deaths. 2. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Technical Notes in the Appendix for a more detailed explanation. 3. Underlying Cause of Death based on ICD-10 (Please see Appendix for a list of ICD-10 codes used). 4. All rates are age-adjusted per 100,000 residents using the 2000 US standard population. 5. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title). 6. Unintentional injuries such as motor vehicle-related and other transportation related deaths, falls, fires, and drownings that were not intended to occur.

Figure 8. Number of Heart Disease Deaths by Age Group and Gender, Massachusetts: 2012



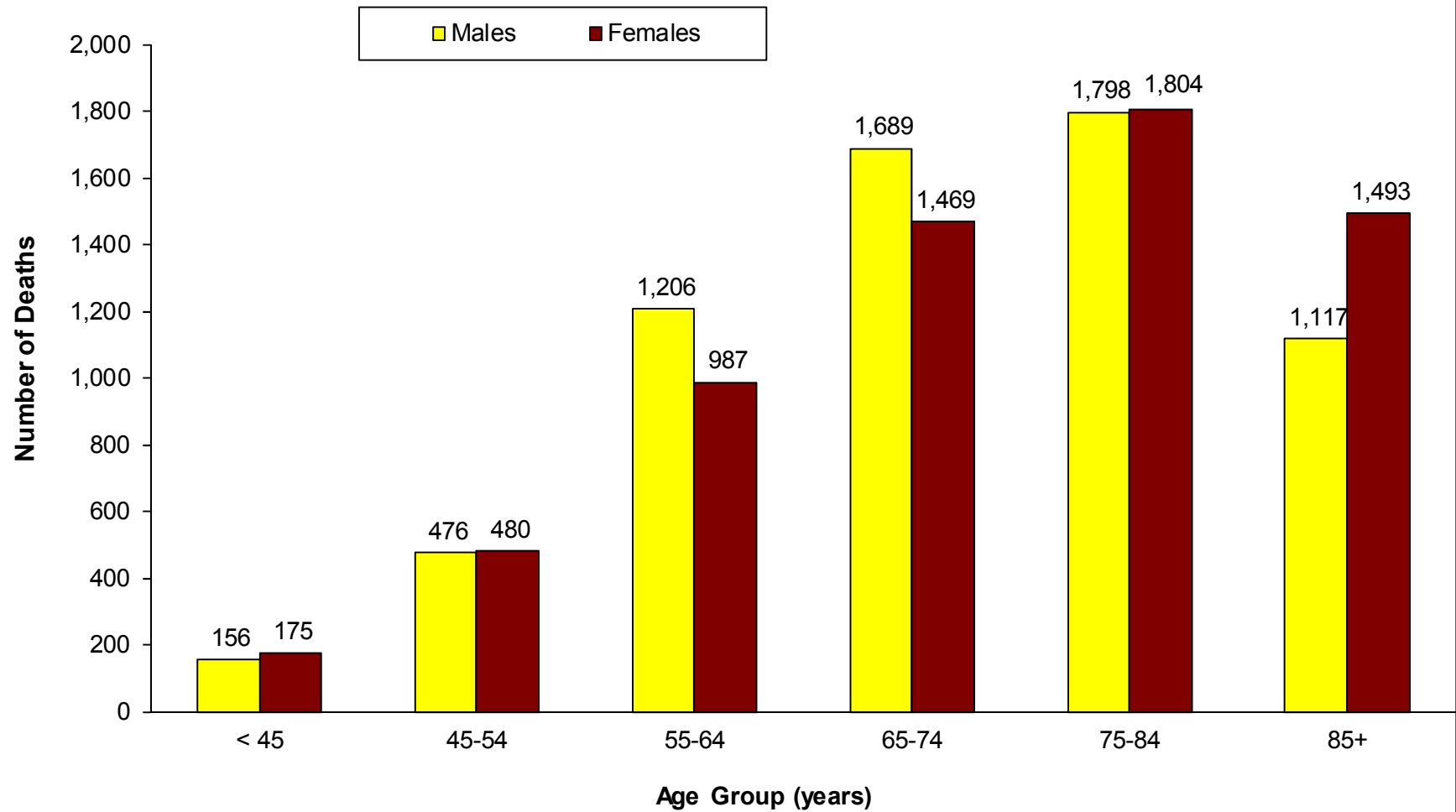
ICD-10: I00-I09, I11, I13, I20-I51

Figure 9. Age Distribution by Race and Ethnicity for Heart Disease Deaths, Massachusetts: 2012



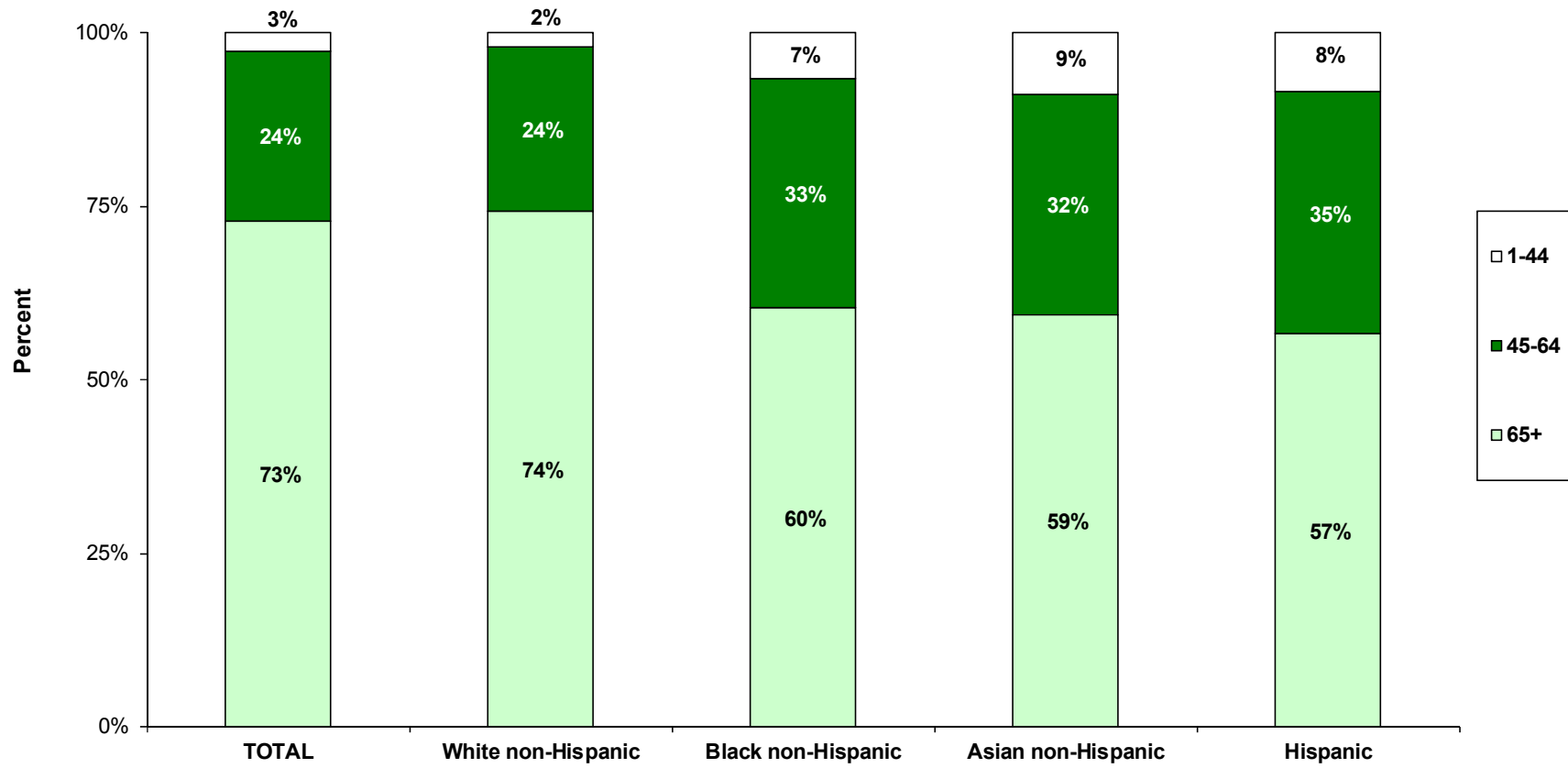
ICD-10: I00-I09, I11, I13, I20-I51

Figure 10. Number of Cancer Deaths by Age Group and Gender, Massachusetts: 2012



ICD-10: C00-C97

Figure 11. Age Distribution by Race and Ethnicity for Cancer Deaths, Massachusetts: 2012



ICD-10: C00-C97

Table 10. Heart Disease and Cancer Deaths by Race and Gender, Age-Adjusted Rates, Massachusetts: 2000-2012

Heart Disease ¹						
<u>White non-Hispanic²</u>				<u>Black non-Hispanic²</u>		
Year	Male	Female	Total	Male	Female	Total
2000	282.4	174.4	219.3	235.1	203.6	221.9
2001	265.9	174.0	213.4	295.2	181.3	228.6
2002	254.7	163.5	202.3	242.2	177.6	205.9
2003	250.3	160.2	198.5	272.1	188.5	223.9
2004	233.1	150.3	185.7	268.1	148.3	198.8
2005	220.6	139.1	174.9	233.7	174.5	199.8
2006	216.5	138.8	172.2	222.3	127.6	165.3
2007	216.2	134.2	168.5	233.5	142.7	180.8
2008	217.1	133.1	167.9	226.7	151.7	181.7
2009	211.3	122.6	158.4	217.3	157.3	181.6
2010	197.5	119.6	152.9	222.3	119.4	159.7
2011	196.0	113.0	148.0	185.6	114.1	143.7
2012	187.5	113.0	144.7	167.3	125.2	144.3
<u>Asian non-Hispanic²</u>				<u>Hispanic</u>		
Year	Male	Female	Total	Male	Female	Total
2000	111.2	65.5	85.6	122.1	106.6	115.6
2001	113.5	62.6	85.1	148.7	110.0	126.9
2002	94.6	69.5	79.9	174.1	101.2	131.9
2003	115.2	65.0	87.6	124.8	96.2	109.7
2004	56.9	54.3	56.1	129.9	77.4	100.3
2005	77.5	48.2	61.3	118.5	83.7	99.2
2006	73.6	70.0	72.8	124.2	84.9	102.3
2007	83.3	52.9	67.4	124.9	61.8	88.3
2008	86.0	51.7	66.3	93.2	66.1	78.3
2009	69.6	51.3	60.1	111.6	62.7	83.8
2010	64.8	50.4	57.1	90.8	66.8	76.9
2011	74.1	61.0	67.5	114.9	72.0	89.7
2012	74.7	43.2	57.1	106.8	70.5	85.8

1. Rates are per 100,000 age-adjusted to the 2000 US standard population. 2. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Technical Notes in the Appendix for a more detailed explanation.

**Table 10 (continued). Heart Disease and Cancer Deaths by Race and Gender,
Age-Adjusted Rates, Massachusetts: 2000-2012**

Cancer¹						
Year	<u>White non-Hispanic²</u>			<u>Black non-Hispanic²</u>		
	Male	Female	Total	Male	Female	Total
2000	258.7	179.0	209.0	348.1	167.4	237.8
2001	249.2	175.8	203.5	264.7	176.4	212.1
2002	245.7	175.3	202.2	293.5	179.5	224.3
2003	237.1	169.4	195.7	304.5	199.0	238.7
2004	230.4	168.4	192.5	277.6	155.7	200.1
2005	226.1	163.2	188.1	264.2	168.1	204.1
2006	234.9	161.5	190.0	265.6	180.9	212.4
2007	226.0	156.5	183.2	270.7	159.7	201.7
2008	221.4	154.8	180.6	255.0	163.7	197.9
2009	212.7	157.0	177.7	244.7	164.7	193.1
2010	211.9	150.8	174.9	244.0	131.3	174.3
2011	206.5	145.9	170.4	209.9	162.3	178.0
2012	201.3	149.1	170.2	229.4	150.7	180.6
Year	<u>Asian non-Hispanic²</u>			<u>Hispanic</u>		
	Male	Female	Total	Male	Female	Total
2000	104.7	92.1	99.0	151.9	104.5	123.8
2001	98.3	105.6	103.1	142.9	97.4	116.4
2002	145.8	90.0	114.3	144.3	103.3	120.6
2003	134.6	87.4	109.3	110.0	76.6	90.0
2004	109.5	79.7	93.1	125.6	82.5	100.4
2005	138.9	79.5	106.1	118.2	97.3	105.7
2006	126.0	91.7	107.2	119.9	74.3	93.7
2007	124.4	76.4	98.4	125.0	90.0	104.7
2008	132.1	89.3	109.0	141.2	83.1	107.8
2009	123.2	71.0	94.3	129.9	98.2	111.8
2010	128.0	98.1	111.8	129.9	87.2	103.9
2011	127.1	92.6	107.3	125.6	84.0	101.1
2012	137.3	78.8	104.6	150.5	94.4	117.7

1. Rates are per 100,000 age-adjusted to the 2000 US standard population. 2. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Technical Notes in the Appendix for a more detailed explanation.

Table 11. Number and Age-Adjusted Rates of Cancer Deaths by Selected Causes and Gender, Massachusetts: 2012

Cause of Death ¹	ICD-10 Code	Total		Female		Male	
		#	Rate ^{2,3}	#	Rate	#	Rate
Total Cancer Deaths	C00-C97	12,850	166.7	6,408	144.8	6,442	198.7
Bladder	C67	374	4.7	127	2.6	247	8.0
Brain and nervous system	C70-C72	315	4.3	144	3.6	171	5.2
Cervix	C53	53	1.3	53	1.3	NA	NA
Colorectal	C18-C21	1,059	13.6	531	11.6	528	16.3
Esophagus	C15	385	4.9	68	1.5	317	9.3
Female breast ⁴	C50 ⁴	858	19.7	858	19.7	NA	NA
Hodgkin disease	C81	18	0.2	9	0.2	9	0.3
Kidney and other urinary organs	C64, C65	270	3.4	99	2.1	171	5.0
Leukemia	C91-C95	503	6.7	227	5.3	276	8.9
Lung	C33, C34	3,455	45.4	1,711	39.4	1,744	54.0
Melanoma of the skin	C43	222	2.9	86	2.0	136	4.1
Multiple myeloma	C88, C90	281	3.6	148	3.1	133	4.2
Non-Hodgkin lymphoma	C82-C85	405	5.2	198	4.4	207	6.5
Ovary	C56	322	7.3	322	7.3	NA	NA
Pancreas	C25	879	11.3	460	10.2	419	12.7
Prostate	C61	597	19.5	NA	NA	597	19.5
Stomach	C16	252	3.3	113	2.5	139	4.3
Uterus	C54, C55	192	4.3	192	4.3	NA	NA
All other cancers	Residual	2,410	31.1	1,062	23.8	1,348	40.5

1. Common terms are used to describe the causes of cancer deaths. For detailed terminology of cancer sites, please see the ICD-10 code list in the Appendix. 2. All rates are age-adjusted by the direct method using the 2000 US standard population. Rates are per 100,000 population. 3. The total resident population is used to calculate all "Total Rates" except for ICD-10 codes C50, C53-C56, which are based on the total female population, and ICD-10 C61, which is based on the total male population. 4. Includes only female breast cancer.

Table 12. Selected Causes of Cancer Deaths by Age, Massachusetts: 2012

Age	Cause of Death ¹	ICD-10 Code	Number	Age-specific rate ²
1-14 years	Total		26	2.4
	Brain and nervous system	C70-C72	10	0.9
	Leukemia	C91-C95	9	0.8
	Kidney and other urinary organs	C64, C65	1	-- ³
15-24 years	Total		29	3.1
	Leukemia	C91-C95	7	0.7
	Brain and nervous system	C70-C72	4	-- ³
	Colorectal	C18-C21	1	-- ³
	Lung	C33, C34	1	-- ³
25-44 years	Total		275	15.9
	Female breast ⁴	C50	38	4.3
	Lung	C33, C34	35	2.0
	Colorectal	C18-C21	29	1.7
	Brain and nervous system	C70-C72	25	1.4
45-64 years	Total		3,149	170.5
	Lung	C33, C34	825	44.7
	Female breast ⁴	C50	275	28.8
	Colorectal	C18-C21	251	13.6
	Pancreas	C25	194	10.5
65+ years	Total		9,370	1,016.4
	Lung	C33, C34	2,594	281.4
	Colorectal	C18-C21	778	84.4
	Pancreas	C25	674	73.1
	Female breast ⁴	C50	544	101.7
65-74 years	Total		3,158	667.0
	Lung	C33, C34	1,033	218.2
	Pancreas	C25	252	53.2
	Colorectal	C18-C21	198	41.8
	Female breast ⁴	C50	180	70.2
75-84 years	Total		3,602	1,207.4
	Lung	C33, C34	1,057	354.3
	Colorectal	C18-C21	296	99.2
	Pancreas	C25	226	75.8
	Prostate ⁵	C61	214	174.6
85+ years	Total		2,610	1,739.1
	Lung	C33, C34	504	335.8
	Colorectal	C18-C21	284	189.2
	Prostate ⁵	C61	203	430.3
	Pancreas	C25	196	130.6

1. Common terms are used to describe causes of cancer death. For detailed terminology, please see the ICD-10 codes listed in the Appendix. 2. Number of deaths per 100,000 residents in each age group. 3. Calculations based on values 1-4 are excluded.

4. Calculation based on female population in specified age group. 5. Calculation based on male population in specified age group.

Table 13. Leading Causes of Cancer Deaths and Age-Adjusted Rates by Race and Hispanic Ethnicity, Massachusetts: 2012

<u>White non-Hispanic¹</u>			<u>Black non-Hispanic¹</u>			<u>Asian non-Hispanic¹</u>			<u>Hispanic¹</u>		
Cause ²	#	Rate ³	Cause	#	Rate ³	Cause	#	Rate ³	Cause	#	Rate ³
Lung	3,187	47.3	Lung	128	38.6	Lung	75	32.8	Lung	60	20.2
Colorectal	961	13.9	Prostate ⁵	53	48.8	Colorectal	26	11.3	Colorectal	29	12.4
Pancreas	801	11.6	Female Breast ⁴	43	21.2	Pancreas	11	5.1	Pancreas	23	8.3
Female Breast ⁴	782	20.4	Colorectal	41	11.9	Female Breast ⁴	10	5.8	Stomach	21	6.5
Prostate ⁵	516	18.6	Pancreas	41	12.9	Prostate ⁵	10	14.0	Female Breast ⁴	21	12.3
Total Cancer	11,630	170.2	Total Cancer	604	180.6	Total Cancer	249	104.6	Total Cancer	343	117.7

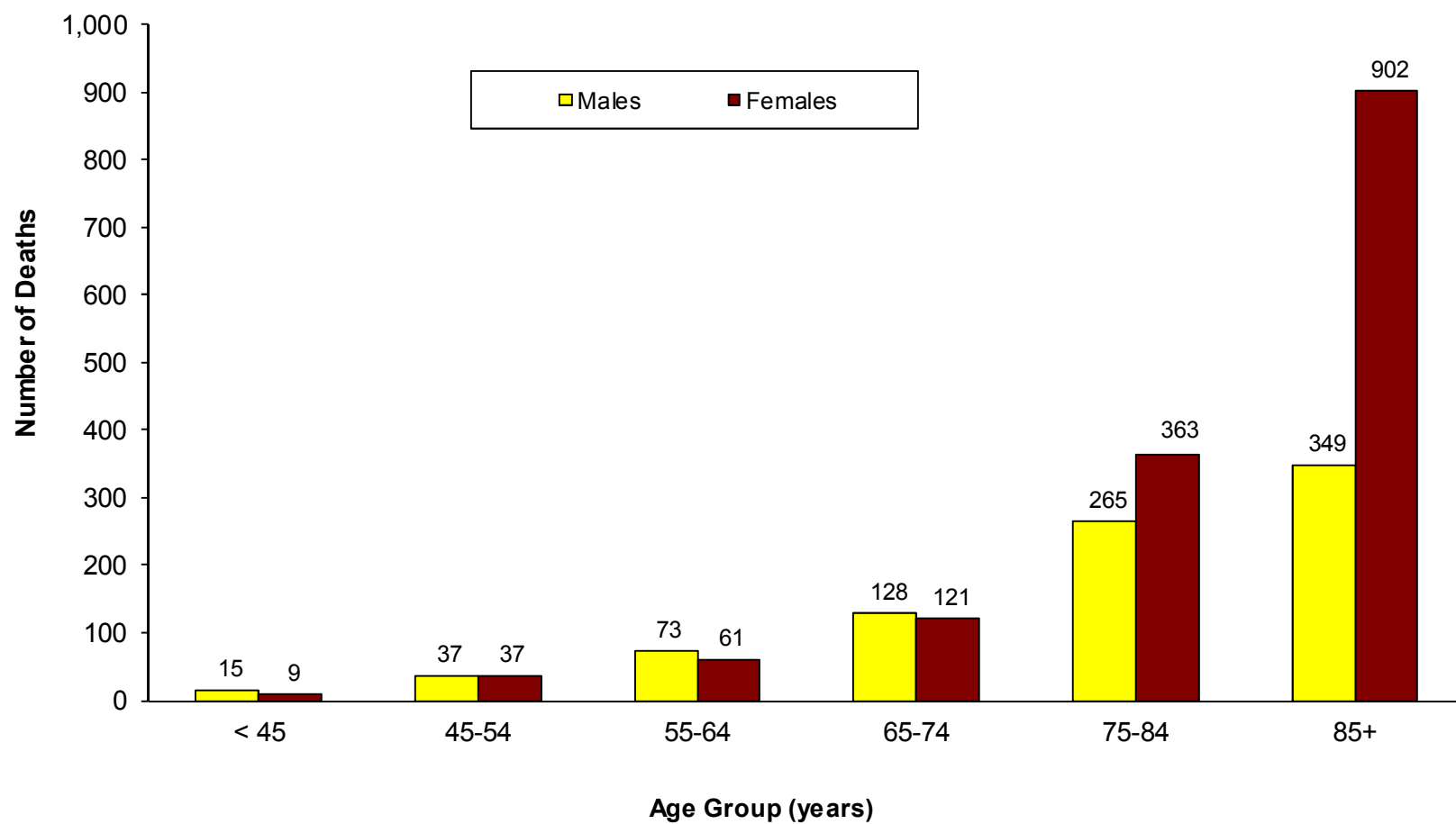
1. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see the Technical Notes in the Appendix for a more detailed explanation. 2. ICD-10 codes used. Please see the ICD-10 codes listing in the Appendix for detailed terminology. 3. All rates are age-adjusted by the direct method using the 2000 US standard population. Rates are per 100,000 population. 4. Calculation based on female population. 5. Calculation based on male population.

Table 14. Number, Percent, and Age-Adjusted Rates of Stroke Deaths by Type and Gender, Massachusetts: 2012

Cause of Death	ICD-10 Code	Total			Female			Male		
		#	%	Rate ¹	#	%	Rate ¹	#	%	Rate ¹
Total Stroke Deaths	I60-I69	2,360	100%	28.7	1,493	100%	28.5	867	100%	28.2
Subarachnoid hemorrhage	I60	97	4.1%	1.3	68	4.6%	1.6	29	3.3%	0.9
Intracerebral and other intracranial hemorrhage	I61-I62	497	21.1%	6.3	284	19.0%	5.8	213	24.6%	6.9
Cerebral infarction	I63	130	5.5%	1.6	75	5.0%	1.5	55	6.3%	1.8
Stroke, not specified	I64	1,186	50.3%	14.1	787	52.7%	14.4	399	46.0%	13.0
Other	I67, I69	450	19.1%	5.4	279	18.7%	5.2	171	19.7%	5.6

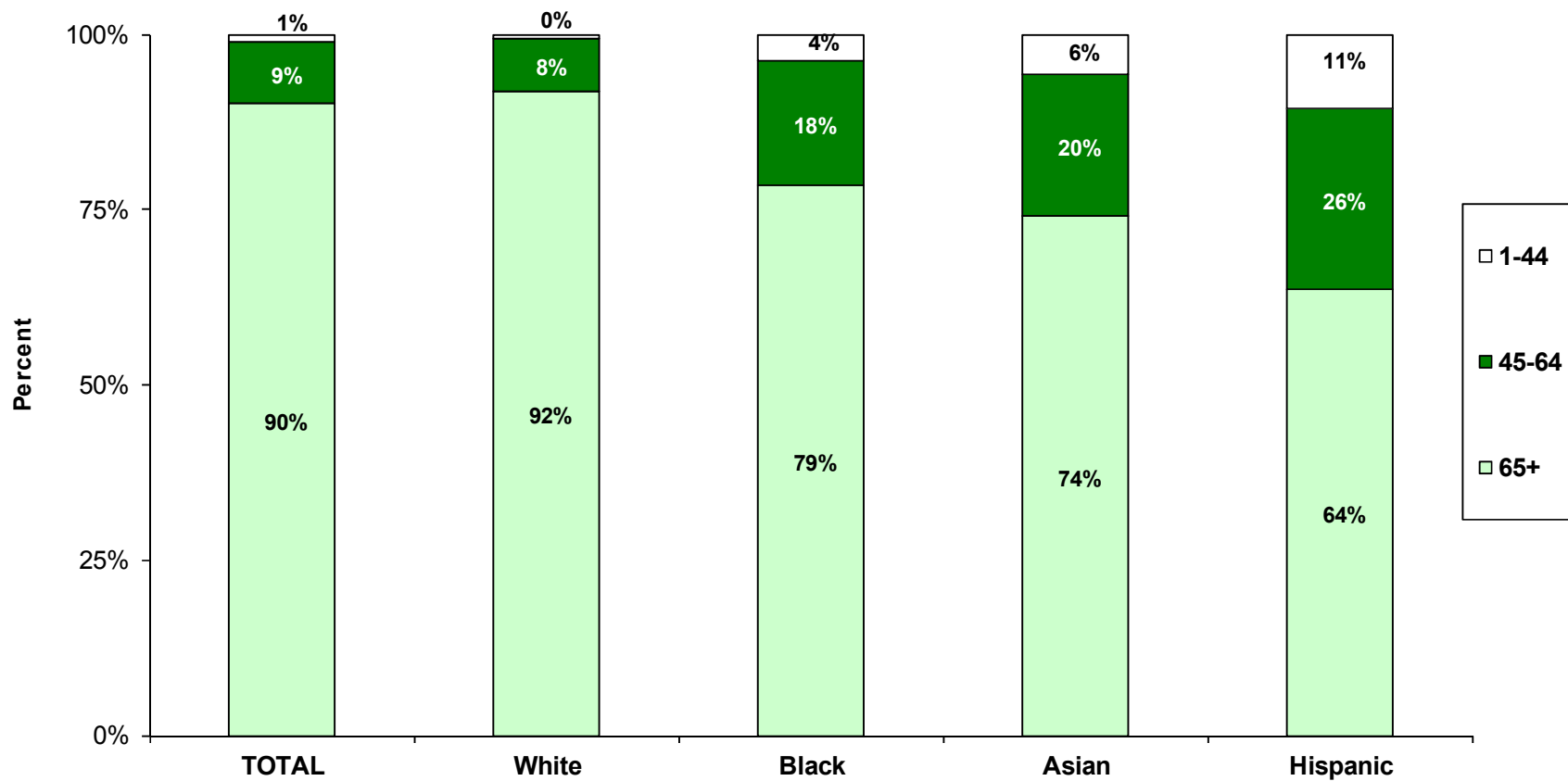
1. All rates are age-adjusted to the 2000 US Standard Population. Rates are per 100,000 population.

Figure 12. Number of Stroke Deaths by Age Group and Gender, Massachusetts: 2012



ICD-10: I60-I69

Figure 13. Age Distribution by Race and Ethnicity for Stroke Deaths, Massachusetts: 2012



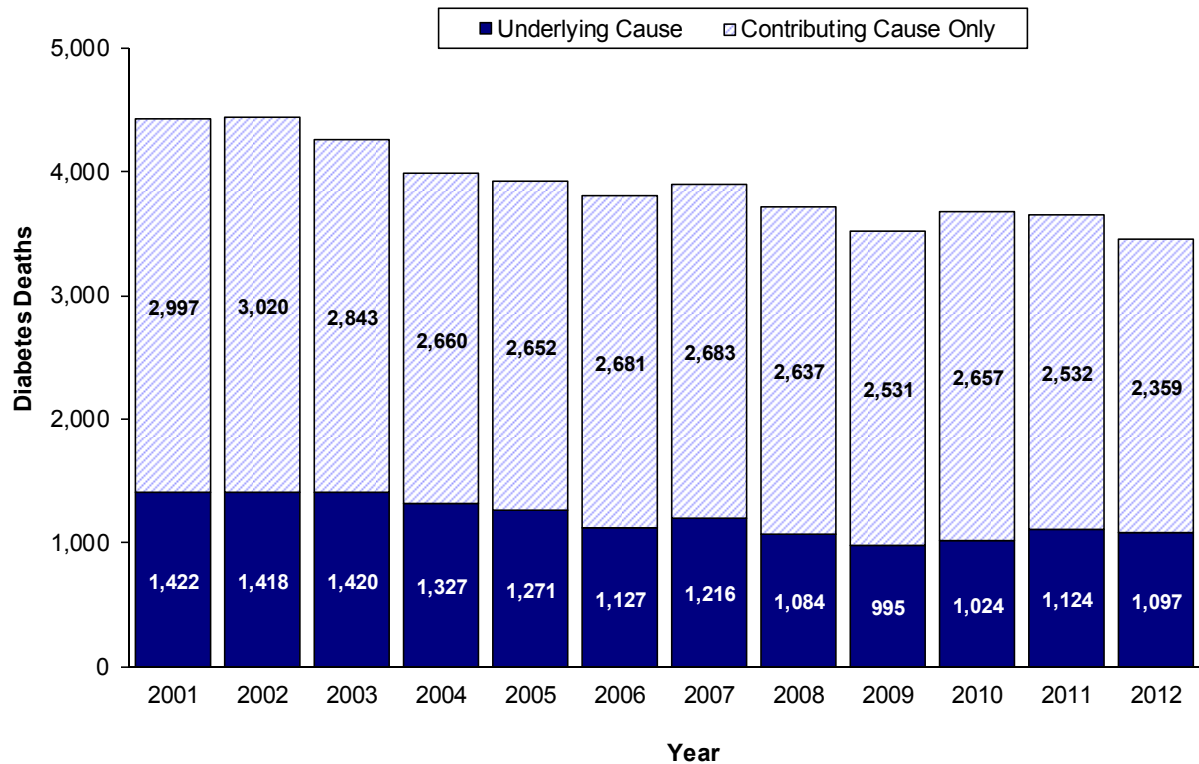
ICD-10: I60-I69

Table 15. Stroke Deaths by Race and Gender, Age-Adjusted Rates, Massachusetts: 2000-2012

Stroke ¹						
Year	<u>White non-Hispanic²</u>				<u>Black non-Hispanic²</u>	
	Male	Female	Total		Male	Total
2000	48.8	50.6	50.5		65.3	60.8
2001	51.5	46.0	48.5		50.8	59.3
2002	50.2	45.7	47.9		57.9	59.5
2003	44.7	43.9	44.7		45.9	52.7
2004	42.8	40.4	41.9		52.1	56.2
2005	37.7	37.3	37.9		50.6	47.5
2006	37.5	35.6	36.7		57.6	54.5
2007	35.4	34.0	34.8		34.4	35.6
2008	33.1	33.4	33.6		53.5	45.5
2009	31.7	31.7	32.0		51.7	42.7
2010	30.5	30.1	30.5		46.2	42.9
2011	30.4	29.6	30.2		34.4	32.0
2012	27.6	28.0	28.1		37.2	36.1
Year	<u>Asian non-Hispanic²</u>				<u>Hispanic</u>	
	Male	Female	Total		Male	Total
2000	50.9	49.4	50.4		40.6	45.0
2001	23.8	38.0	32.0		39.4	33.2
2002	21.2	28.7	25.6		49.6	38.3
2003	39.3	28.7	33.4		44.3	39.3
2004	35.2	32.7	34.1		39.7	35.5
2005	28.2	27.5	28.1		33.2	28.2
2006	34.5	41.9	39.2		26.5	28.8
2007	26.7	29.5	28.4		32.0	28.9
2008	23.4	27.1	25.6		23.9	21.1
2009	38.1	22.0	28.1		23.9	19.9
2010	35.2	27.0	30.8		31.1	26.0
2011	21.3	25.5	24.2		22.0	23.1
2012	31.0	24.4	27.0		19.2	24.7

1. Rates are per 100,000 age-adjusted to the 2000 US standard population. 2. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Technical Notes in the Appendix for a more detailed explanation.

Figure 14. Diabetes Deaths, Massachusetts: 2001-2012



ICD-10: E10-E14

Table 16. Diabetes Deaths by Gender, Massachusetts: 2012

Cause of Death	Proportion of all Deaths (%)			Number		
	Males	Females	Total	Males	Females	Total
Underlying	2.3%	1.8%	2.1%	584	514	1,098
Contributing/Associated	5.0%	3.9%	4.4%	1,270	1,090	2,360
Total diabetes-related	7.3%	5.8%	6.5%	1,854	1,604	3,458
<i>Total deaths (all causes)</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>25,280</i>	<i>27,883</i>	<i>53,169</i>

ICD-10: E10-E14

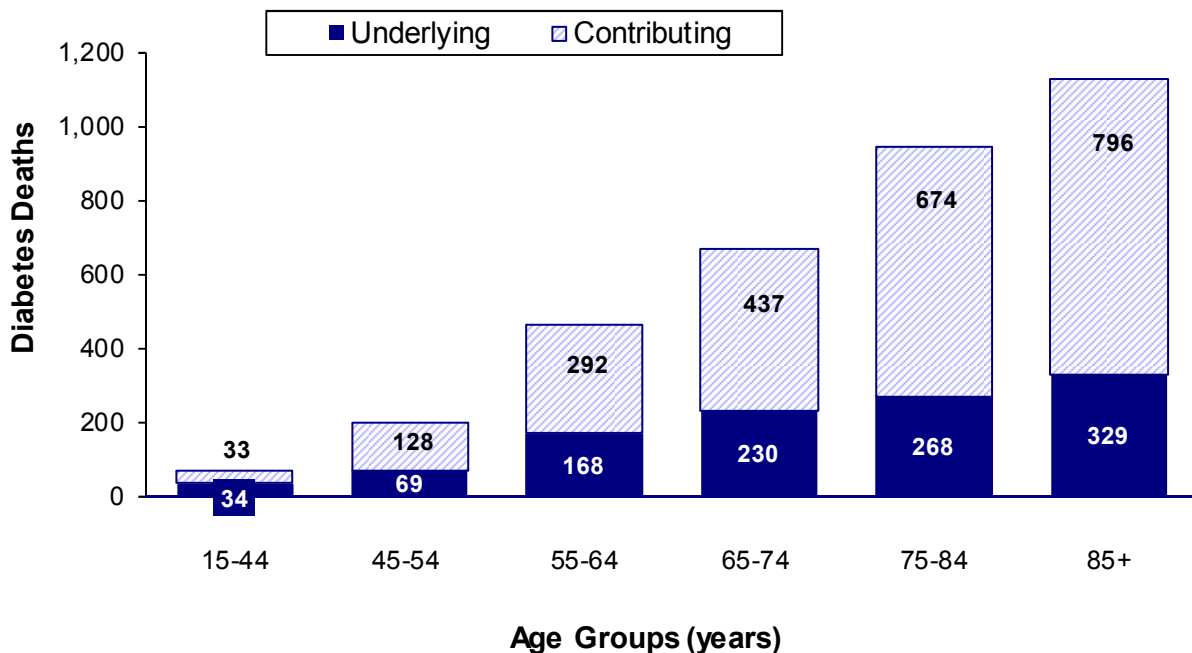
Table 17. Diabetes Deaths by Race and Hispanic Ethnicity, Massachusetts: 2012

	Race/Hispanic Ethnicity				
Cause of Death	White non-Hispanic	Black non-Hispanic	Hispanic	Asian non-Hispanic	Total
	Number				
Underlying	912	103	58	20	1,098
Contributing/Associated	2,091	131	81	54	2,360
Total diabetes-related	3,003	234	139	74	3,458
Total deaths (all causes)	48,430	2,318	1,487	811	53,169
	Proportion of all deaths (%)				
Underlying	1.9	4.4	3.9	2.5	2.1
Contributing/Associated	4.3	5.7	5.4	6.7	4.4
Total diabetes-related	6.2	10.1	9.3	9.1	6.5
	Death Rates ¹				
Underlying	12.9	32	20.5	9.2	13.9
Contributing/Associated	29.4	40.3	27.8	28.3	29.8
Total diabetes-related	42.3	72.3	48.3	37.5	43.7

ICD-10: E10-E14

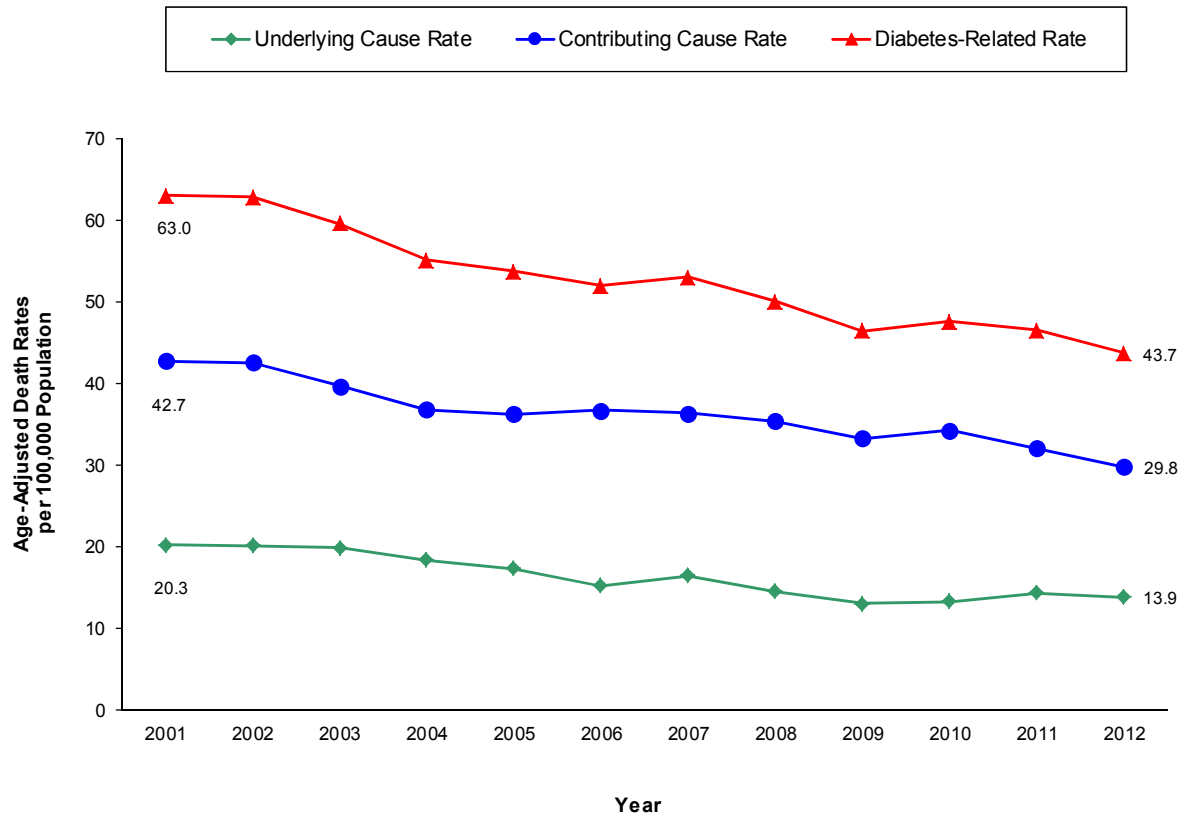
1. Rates are per 100,000 age-adjusted to the 2000 U.S. standard population

Figure 15. Age Distribution of Diabetes Deaths, Massachusetts: 2012



ICD-10: E10-E14.

Figure 16. Diabetes Death Rates, Massachusetts: 2001-2012



ICD-10: E10-E14.

Rates are per 100,000 age-adjusted to the 2000 U.S. standard population.

Table 18. Injury Deaths by Leading Causes, Gender, Age: Numbers, Age-Adjusted, and Age-Specific Rates, Massachusetts: 2012

	All Injury Deaths ¹		Poisoning ²		Falls		Hanging, strangulation, or suffocation		Motor Vehicle-related ³		Firearm		Other ⁴	
	Number	Rate ⁵	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
All Persons	3,053	42.6	963	14.2	642	7.9	404	5.7	368	5.3	235	3.5	441	6.0
<1	8	10.9	1	-- ⁶	0	0.0	1	-- ⁶	0	0.0	0	0.0	6	8.2
1-14	20	1.9	1	-- ⁶	1	-- ⁶	5	0.5	8	0.7	1	-- ⁶	4	-- ⁶
15-24	291	31.1	72	7.7	6	0.6	53	5.7	77	8.2	40	4.3	43	4.6
25-44	827	47.7	441	25.4	17	1.0	106	6.1	95	5.5	95	5.5	73	4.2
45-64	899	48.7	405	21.9	84	4.5	130	7.0	89	4.8	66	3.6	125	6.8
65-74	213	45.0	27	5.7	59	12.5	24	5.1	34	7.2	14	3.0	55	11.6
75-84	320	107.3	7	2.3	163	54.6	36	12.1	38	12.7	14	4.7	62	20.8
85+	475	316.5	9	6.0	312	207.9	49	32.6	27	18.0	5	3.3	73	48.6
All Females	1,081	26.3	319	9.1	331	6.4	126	3.1	107	2.8	27	0.8	171	4.0
<1	2	-- ⁶	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	-- ⁶
1-14	9	1.7	1	-- ⁶	1	-- ⁶	2	-- ⁶	3	-- ⁶	1	-- ⁶	1	-- ⁶
15-24	85	18.3	29	6.2	1	-- ⁶	19	4.1	22	4.7	4	-- ⁶	10	2.2
25-44	204	23.1	131	14.9	4	-- ⁶	18	2.0	19	2.2	15	1.7	17	1.9
45-64	256	26.9	136	14.3	27	2.8	32	3.4	21	2.2	7	0.7	33	3.5
65-74	84	32.8	13	5.1	25	9.8	7	2.7	17	6.6	0	0.0	22	8.6
75-84	156	88.8	4	-- ⁶	85	48.4	22	12.5	12	6.8	0	0.0	33	18.8
85+	285	277.0	5	4.9	188	182.7	26	25.3	13	12.6	0	0.0	53	51.5
All Males	1,971	60.6	644	19.6	311	9.9	277	8.5	261	8.1	208	6.3	270	8.2
<1	6	16.0	1	-- ⁶	0	0.0	1	-- ⁶	0	0.0	0	0.0	4	-- ⁶
1-14	11	2.0	0	0.0	0	0.0	3	-- ⁶	5	0.9	0	0.0	3	-- ⁶
15-24	206	43.8	43	9.1	5	1.1	34	7.2	55	11.7	36	7.7	33	7.0
25-44	623	73.2	310	36.4	13	1.5	88	10.3	76	8.9	80	9.4	56	6.6
45-64	643	71.9	269	30.1	57	6.4	98	11.0	68	7.6	59	6.6	92	10.3
65-74	129	59.4	14	6.4	34	15.7	17	7.8	17	7.8	14	6.4	33	15.2
75-84	164	133.8	3	-- ⁶	78	63.6	14	11.4	26	21.2	14	11.4	29	23.7
85+	189	400.6	4	-- ⁶	124	262.9	22	46.6	14	29.7	5	10.6	20	42.4

1. Data presented in this table are classified according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 2. Includes drug overdoses, which account for the largest percentage. 3. Motor vehicle deaths to occupants, pedestrians, motorcyclists and bicyclists. 4. All remaining injury causes. 5. Number of deaths per 100,000 persons in each age group; rates for all rows except the age group rows are age-adjusted to the 2000 US standard population. 6. Calculations based on values 1-4 are excluded.

Table 19. Injury Deaths by Leading Causes, Gender and Race and Hispanic Ethnicity: Numbers and Age Adjusted Rates, Massachusetts: 2012

	All Injury Deaths¹		Poisoning²		Falls		Hanging, strangulation, or suffocation		Motor Vehicle-related³		Firearm		Other⁴	
	<u>Number</u>	<u>Rate⁵</u>	<u>Number</u>	<u>Rate</u>	<u>Number</u>	<u>Rate</u>	<u>Number</u>	<u>Rate</u>	<u>Number</u>	<u>Rate</u>	<u>Number</u>	<u>Rate</u>	<u>Number</u>	<u>Rate</u>
White non-Hispanic	2,616	44.8	852	16.4	600	8.2	345	6.0	301	5.4	161	2.9	357	5.8
Females	958	28.1	285	10.6	314	6.7	108	3.2	87	2.9	20	0.8	144	3.8
Males	1,658	63.2	567	22.4	286	10.3	237	9.0	214	8.3	141	5.3	213	7.9
Black non-Hispanic	200	45.4	45	10.1	20	5.2	19	4.5	30	7.0	44	8.8	42	9.9
Females	54	23.8	16	6.8	7	3.5	6	2.8	8	3.7	6	2.2	11	4.9
Males	146	68.4	29	13.7	13	7.2	13	5.9	22	10.4	38	15.9	31	15.3
Asian non-Hispanic	61	21.0	12	2.8	8	4.4	14	4.6	12	3.6	2	--⁶	13	5.0
Females	24	15.3	6	2.8	3	-- ⁶	5	2.4	3	-- ⁶	0	0.0	7	5.6
Males	36	26.4	6	2.9	5	6.2	8	6.0	9	6.0	2	-- ⁶	6	3.9
Hispanic	158	30.1	49	8.7	13	6.3	22	3.2	21	2.8	27	4.0	26	5.1
Females	42	16.1	12	3.7	6	4.6	5	1.4	9	2.3	1	-- ⁶	9	3.8
Males	116	47.4	37	14.8	7	9.4	17	5.2	12	3.3	26	8.1	17	6.6

1. Data presented in this table are classified according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 2. Includes drug overdoses, which account for the largest percentage. 3. Motor vehicle deaths to occupants, pedestrians, motorcyclists and bicyclists. 4. All remaining injury causes. 5. Number of deaths per 100,000 persons in each group; rates are age-adjusted to the 2000 US standard population. 6. Calculations based on values 1-4 are excluded.

Table 20. Unintentional Injury Deaths by Gender, Age: Numbers, Age-Adjusted, and Age-Specific Rates, Massachusetts: 2012

	All Unintentional¹		Poisonings		Falls		Motor Vehicle-related	
	<u>Number</u>	<u>Rate²</u>	<u>Number</u>	<u>Rate²</u>	<u>Number</u>	<u>Rate²</u>	<u>Number</u>	<u>Rate²</u>
All Persons	2,186	30.0	810	12.1	627	7.7	368	5.3
<1	3	-- ³	1	-- ³	0	0.0	0	0.0
1-14	15	1.4	0	0.0	1	-- ³	8	0.7
15-24	161	17.2	60	6.4	4	-- ³	77	8.2
25-44	538	31.0	400	23.1	12	0.7	95	5.5
45-64	575	31.1	323	17.5	77	4.2	89	4.8
65-74	158	33.4	16	3.4	59	12.5	34	7.2
75-84	287	96.2	4	-- ³	162	54.3	38	12.7
85+	449	299.2	6	4.0	312	207.9	27	18.0
All Females	849	19.9	243	7.1	326	6.3	107	2.8
<1	0	0.0	0	0.0	0	0.0	0	0.0
1-14	6	1.1	0	0.0	1	-- ³	3	-- ³
15-24	50	10.8	22	4.7	1	-- ³	22	4.7
25-44	144	16.3	114	12.9	2	-- ³	19	2.2
45-64	163	17.1	94	9.9	24	2.5	21	2.2
65-74	66	25.8	8	3.1	25	9.8	17	6.6
75-84	145	82.5	1	-- ³	85	48.4	12	6.8
85+	275	267.2	4	-- ³	188	182.7	13	12.6
All Males	1,337	41.4	567	17.4	301	9.6	261	8.1
<1	3	-- ³	1	-- ³	0	0.0	0	0.0
1-14	9	1.6	0	0.0	0	0.0	5	0.9
15-24	111	23.6	38	8.1	3	-- ³	55	11.7
25-44	394	46.3	286	33.6	10	1.2	76	8.9
45-64	412	46.1	229	25.6	53	5.9	68	7.6
65-74	92	42.3	8	3.7	34	15.7	17	7.8
75-84	142	115.8	3	-- ³	77	62.8	26	21.2
85+	174	368.8	2	-- ³	124	262.9	14	29.7

1. Data presented in this table are classified according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table.

2. Number of deaths per 100,000 persons in each age group; rates for all rows except the age group rows are age-adjusted to the 2000 US standard population. 3. Calculations based on values 1-4 are excluded.

Table 21. Unintentional Injury Deaths by Gender and Race and Hispanic Ethnicity: Numbers, and Age-Adjusted Rates, Massachusetts: 2012

	All Unintentional¹		Poisonings		Falls		Motor Vehicle-related	
	<u>Number</u>	<u>Rate²</u>	<u>Number</u>	<u>Rate²</u>	<u>Number</u>	<u>Rate²</u>	<u>Number</u>	<u>Rate²</u>
White non-Hispanic	1,940	32.5	715	14.0	587	7.9	301	5.4
Females	769	21.5	217	8.3	309	6.6	87	2.9
Males	1,171	44.6	498	19.9	278	10.0	214	8.3
Black non-Hispanic	107	25.8	40	9.0	18	4.8	30	7.0
Females	36	16.6	13	5.5	7	3.5	8	3.7
Males	71	35.7	27	12.8	11	6.5	22	10.4
Asian non-Hispanic	36	13.5	7	1.4	8	4.4	12	3.6
Females	12	8.9	2	-- ³	3	-- ³	3	-- ³
Males	24	19.1	5	2.1	5	6.2	9	6.0
Hispanic	92	20.2	43	7.8	13	6.3	21	2.8
Females	31	12.9	11	3.3	6	4.6	9	2.3
Males	61	30	32	13.3	7	9.4	12	3.3

1. Data presented in this table are classified according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table.

2. Number of deaths per 100,000 persons in each group; rates are age-adjusted to the 2000 US standard population. 3. Calculations based on values 1-4 are excluded.

Table 22. Intentional Injury Deaths by Gender, Age: Numbers, Age-Adjusted, and Age-Specific Rates, Massachusetts: 2012

	All Intentional¹		Suicide		Homicide	
	<u>Number</u>	<u>Rate²</u>	<u>Number</u>	<u>Rate²</u>	<u>Number</u>	<u>Rate²</u>
All Persons	756	11.0	616	8.9	140	2.1
<1	2	-- ³	0	0.0	2	-- ³
1-14	4	-- ³	3	-- ³	1	-- ³
15-24	126	13.5	81	8.7	45	4.8
25-44	265	15.3	203	11.7	62	3.6
45-64	281	15.2	261	14.1	20	1.1
65-74	40	8.4	35	7.4	5	1.1
75-84	23	7.7	19	6.4	4	-- ³
85+	15	10.0	14	9.3	1	-- ³
All Females	183	5.2	152	4.2	31	0.9
<1	2	-- ³	0	0.0	2	-- ³
1-14	2	-- ³	1	-- ³	1	-- ³
15-24	35	7.5	28	6.0	7	1.5
25-44	52	5.9	41	4.6	11	1.2
45-64	74	7.8	69	7.2	5	0.5
65-74	11	4.3	8	3.1	3	-- ³
75-84	5	2.8	3	-- ³	2	-- ³
85+	2	-- ³	2	-- ³	0	0.0
All Males	572	17.3	463	13.9	109	3.4
<1	0	0.0	0	0.0	0	0.0
1-14	2	-- ³	2	-- ³	0	0.0
15-24	91	19.4	53	11.3	38	8.1
25-44	213	25.0	162	19.0	51	6.0
45-64	207	23.2	192	21.5	15	1.7
65-74	29	13.3	27	12.4	2	-- ³
75-84	18	14.7	16	13.1	2	-- ³
85+	12	25.4	11	23.3	1	-- ³

1. Data presented in this table are classified according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table.

2. Number of deaths per 100,000 persons in each age group; rates for all rows except the age group rows are age-adjusted to the 2000 US standard population. 3. Calculations based on values 1-4 are excluded.

Table 23. Intentional Injury Deaths by Gender and Race and Hispanic Ethnicity: Numbers and Age-Adjusted Rates, Massachusetts: 2012

	All Intentional ¹		Suicide		Homicide	
	<u>Number</u>	<u>Rate²</u>	<u>Number</u>	<u>Rate²</u>	<u>Number</u>	<u>Rate²</u>
White non-Hispanic	585	10.8	534	9.8	51	1.0
Females	144	5.2	130	4.6	14	0.6
Males	441	16.8	404	15.3	37	1.4
Black non-Hispanic	83	17.2	29	6.4	54	10.8
Females	15	5.8	7	2.7	8	3.1
Males	68	29.4	22	10.6	46	18.8
Asian non-Hispanic	23	6.9	18	5.4	5	1.5
Females	12	6.4	9	4.3	3	-- ³
Males	10	6.1	8	5.2	2	-- ³
Hispanic	59	8.6	30	4.7	29	3.8
Females	10	2.8	4	-- ³	6	1.8
Males	49	15.0	26	9.1	23	5.9

1. Data presented in this table are classified according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table.

2. Number of deaths per 100,000 persons in each group; rates are age-adjusted to the 2000 US standard population. 3. Calculations based on values 1-4 are excluded.

Table 24. Injury Deaths by Intent, Method and Gender: Number and Age-Adjusted Rates, Massachusetts: 2012

Type of Injury ¹	<u>All Injury Deaths</u>		<u>Female</u>		<u>Male</u>	
	Number	Rate ²	Number	Rate ²	Number	Rate ²
Unintentional Injuries (Accidents)	2,186	30.0	849	19.9	1,337	41.4
Motor Vehicle-related	368	5.3	107	2.8	261	8.1
Injury to pedestrian	81	1.2	35	0.9	46	1.5
Injury to pedal cyclist	13	0.2	4	-- ³	9	0.3
Injury to motorcyclist	59	0.9	6	0.2	53	1.6
Injury to occupant	51	0.8	12	0.3	39	1.2
Other and unspecified	164	2.3	50	1.3	114	3.5
Poisoning	810	12.1	243	7.1	567	17.4
Falls	627	7.7	326	6.3	301	9.6
Hanging, strangulation or suffocation	132	1.7	68	1.5	64	2.0
Drowning and submersion	40	0.6	8	0.2	32	1.0
Smoke, fire and flames	23	0.3	13	0.3	10	0.3
Other and unspecified	159	2.0	83	1.7	76	2.3
Suicide	616	8.9	152	4.2	463	13.9
Poisoning	126	1.7	63	1.7	63	1.8
Hanging, strangulation or suffocation	265	3.9	54	1.6	210	6.4
Firearm	152	2.2	17	0.5	135	4.1
Other and unspecified	73	1.0	18	0.5	55	1.6
Homicide	140	2.1	31	0.9	109	3.4
Firearm	77	1.2	10	0.3	67	2.1
Cut or pierce	27	0.4	7	0.2	20	0.6
Other and unspecified	36	0.5	14	0.4	22	0.7
Injury Deaths of Undetermined Intent	67	1.0	25	0.7	42	1.3
Poisoning	27	0.4	13	0.4	14	0.4
Other and unspecified	40	0.6	12	0.3	28	0.9
Legal Intervention	4	--³	0	0.0	4	--³
Firearm	3	-- ³	0	0.0	3	-- ³
Other and unspecified	0	0.0	0	0.0	0	0.0
Adverse Effects	40	0.5	24	0.5	16	0.5
Medical Care	33	0.4	22	0.5	11	0.3
Drugs	7	0.1	2	-- ³	5	0.1
ALL INJURIES	3,053	42.6	1,081	26	1,971	60.6

1. Data presented in this table are classified according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 2. Number of deaths per 100,000 persons; rates are adjusted to the 2000 US standard population. 3. Calculations based on values 1-4 are excluded.

Table 25. HIV/AIDS Deaths by Place of Occurrence, Massachusetts: 2000-2012

Year		Total ¹	Place of Occurrence			
			At Home	Hospital	Out of State	Hospice/Nursing Home/Other
2000	#	226	48	145	0	33
	%	100.0	21.2	64.2	0.0	14.6
2001	#	249	47	164	4	34
	%	100.0	18.9	65.9	-- ²	13.7
2002	#	229	33	156	4	36
	%	100.0	14.4	68.1	-- ²	15.7
2003	#	226	55	134	5	32
	%	100.0	24.3	59.3	2.2	14.2
2004	#	211	45	134	1	31
	%	100.0	21.3	63.5	-- ²	14.7
2005	#	180	28	122	1	30
	%	100.0	15.6	67.8	-- ²	16.7
2006	#	179	22	122	2	33
	%	100.0	12.3	68.2	-- ²	18.4
2007	#	143	15	98	2	28
	%	100.0	10.5	68.5	-- ²	19.6
2008	#	143	27	92	1	23
	%	100.0	18.9	64.3	-- ²	16.1
2009	#	124	25	76	1	22
	%	100.0	20.2	61.3	-- ²	17.7
2010	#	119	22	68	1	28
	%	100.0	18.5	57.1	-- ²	23.5
2011	#	91	14	58	0	19
	%	100.0	15.4	63.7	0.0	20.9
2012	#	100	24	56	0	20
	%	100.0	24.0	56.0	0.0	20.0

1. AIDS: Acquired Immune Deficiency Syndrome, HIV: Human Immunodeficiency Virus. The deaths reported are cases for which AIDS or HIV-related disease was the underlying cause of death. Deaths were coded according to ICD-10: B20-B24. 2. Calculations based on values 1-4 are excluded.

Table 26. HIV/AIDS Deaths by Age, Massachusetts: 2000-2012

Year		<u>Age (in years)</u>				
		<15	15-24	25-34	35-44	45+
2000	# ¹ %	4 -- ²	0 0.0	26 11.5	104 46.0	92 40.7
2001	# %	1 -- ²	2 -- ²	25 10.0	111 44.6	110 44.2
2002	# %	1 -- ²	1 -- ²	10 4.4	91 39.7	126 55.0
2003	# %	1 -- ²	3 -- ²	14 6.2	94 41.6	114 50.4
2004	# %	0 0.0	2 -- ²	9 4.3	79 37.4	121 57.4
2005	# %	0 0.0	1 -- ²	6 3.3	64 35.6	109 60.6
2006	# %	0 0.0	1 -- ²	6 3.4	71 39.7	101 56.4
2007	# %	0 0.0	0 0.0	5 3.5	34 32.7	104 72.7
2008	# %	0 0.0	1 -- ²	6 4.2	32 22.4	104 72.7
2009	# %	0 0.0	0 0.0	6 4.8	25 20.2	93 75.0
2010	# %	0 0.0	1 -- ²	4 -- ²	24 20.2	90 75.6
2011	# %	0 0.0	2 -- ²	1 -- ²	19 20.9	69 75.8
2012	# %	0 0.0	0 0.0	2 -- ²	16 16.0	82 82.0

1. AIDS: Acquired Immune Deficiency Syndrome, HIV: Human Immunodeficiency Virus. The deaths reported are cases for which AIDS or HIV-related disease was the underlying cause of death. Deaths were coded according to ICD-10: B20-B24. 2. Calculations based on values 1-4 are excluded.

Table 27. HIV/AIDS Deaths by Gender, Race and Hispanic Ethnicity, Massachusetts: 2000-2012

Year		Gender		Race and Ethnicity			
		Male	Female	White non-Hispanic ²	Black non-Hispanic ²	Other ³	Hispanic ²
2000	# ¹	161	65	104	61	2	59
	%	71.2	28.8	46.0	27.0	- ⁴	26.1
2001	#	182	67	125	73	0	51
	%	73.1	26.9	50.2	29.3	0.0	20.5
2002	#	163	66	108	68	1	52
	%	71.2	28.8	47.1	29.7	- ⁴	22.7
2003	#	150	76	113	58	2	53
	%	66.4	33.6	50.0	25.7	- ⁴	23.5
2004	#	151	60	97 ⁶	55	4	55
	%	71.6	28.4	46.0	26.1	- ⁴	26.1
2005	#	122	58	75	56	4	45
	%	67.8	32.2	41.7	31.1	- ⁴	25.0
2006	#	122	57	91	49	2	37
	%	68.2	31.8	50.8	27.4	- ⁴	20.7
2007	#	96	47	58	48	0	37
	%	67.4	32.9	40.6	33.6	0.0	25.9
2008	#	101	42	69	37	5	31
	%	70.6	29.4	48.6	26.1	3.5	21.8
2009	#	89	35	48	37	6	33
	%	71.8	28.2	38.7	29.8	4.8	26.6
2010	#	80	39	58	34	1	26
	%	67.2	32.8	48.7	28.6	- ⁴	21.8
2011	#	64	27	36	30	1	24
	%	70.3	29.7	39.6	33.0	- ⁴	26.4
2012	#	62	38	50	26	1	23
	%	62.0	38.0	50.0	26.0	- ⁴	23.0

1. AIDS: Acquired Immune Deficiency Syndrome, HIV: Human Immunodeficiency Virus. The deaths reported are cases for which AIDS or HIV-related disease was the underlying cause of death. Deaths were coded according to the ICD-10 (codes B20-B24). 2. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Technical Notes in the Appendix for a more detailed explanation. 3. The "Other" category represents Asian non-Hispanics, American Indian non-Hispanics, and other non-Hispanics. 4. Calculations based on values 1-4 are excluded.

Table 28. HIV/AIDS Deaths by Gender, Race and Hispanic Ethnicity: Numbers, Percent and Age-adjusted Rates, Massachusetts: 2000-2012

<u>TOTAL</u>¹	<u>White non-Hispanic</u>²			<u>Black non-Hispanic</u>²			<u>Hispanic</u>²		
Year	#	Percent	Rate³	#	Percent	Rate³	#	Percent	Rate³
2000	104	46%	1.9	61	27%	18.3	59	26%	17.4
2001	125	50%	2.2	73	29%	21.1	51	20%	13.5
2002	108	47%	1.9	68	30%	20.3	52	23%	13.5
2003	113	50%	2.0	58	26%	17.2	53	23%	14.9
2004	97	46%	1.7	55	26%	15.8	55	26%	13.9
2005	75	42%	1.3	56	31%	16.0	45	25%	11.5
2006	91	51%	1.6	49	27%	13.7	37	21%	8.4
2007	58	41%	1.0	48	34%	13.0	37	26%	8.9
2008	69	50%	1.2	37	27%	10.6	31	23%	8.3
2009	48	41%	0.5	37	31%	15.2	33	28%	11.6
2010	58	49%	0.5	34	29%	15.2	26	22%	11.6
2011	36	40%	0.6	30	33%	6.9	24	27%	4.7
2012	50	51%	0.8	26	26%	6.1	23	23%	4.6
<u>MALE</u>									
2000	77	48%	2.8	40	25%	26.0	42	26%	27.7
2001	92	51%	3.3	50	27%	31.4	40	22%	22.5
2002	86	53%	3.1	43	26%	27.9	34	21%	18.7
2003	74	49%	2.7	36	24%	23.4	39	26%	23.8
2004	74	49%	2.7	39	26%	24.0	34	23%	18.4
2005	52	43%	1.9	34	28%	20.9	33	27%	18.4
2006	67	55%	2.4	33	27%	20.0	21	17%	9.8
2007	48	50%	1.7	23	24%	13.4	25	26%	13.3
2008	55	56%	1.9	25	26%	16.0	18	18%	11.0
2009	32	38%	1.1	29	34%	15.6	24	28%	12.4
2010	40	51%	1.1	20	25%	15.6	19	24%	12.4
2011	30	48%	1.1	14	22%	6.6	19	30%	8.2
2012	35	57%	1.2	14	23%	7.8	12	20%	5.6
<u>FEMALE</u>									
2000	27	42%	1.0	21	32%	11.4	17	26%	8.6
2001	33	49%	1.2	23	34%	12.1	11	16%	5.4
2002	22	33%	0.8	25	38%	13.8	18	27%	8.7
2003	39	51%	1.4	22	29%	12.0	14	18%	7.1
2004	23	38%	0.8	16	27%	8.7	21	35%	10.0
2005	23	40%	0.8	22	38%	11.8	12	21%	5.4
2006	24	42%	0.9	16	28%	8.3	16	28%	7.1
2007	10	21%	0.3	25	53%	12.8	12	26%	5.2
2008	14	36%	0.5	12	31%	6.4	13	33%	6.4
2009	16	48%	0.5	8	24%	3.8	9	27%	3.8
2010	18	46%	0.5	14	36%	3.8	7	18%	3.8
2011	6	22%	0.2	16	59%	7.1	5	19%	1.6
2012	15	39%	0.4	12	32%	4.9	11	29%	3.9

1. AIDS and HIV disease deaths coded using ICD-10: B20-B24. 2. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Technical Notes in the Appendix for a more detailed explanation. 3. Number of deaths per 100,000 persons; rates are age-adjusted to the 2000 US standard population.

Table 29. Trends in Infant, Neonatal, and Post Neonatal Mortality, by Race and Hispanic Ethnicity, Massachusetts: 2001-2012

INFANT MORTALITY (less than one year of age)												
Year	State Total ¹		White non-Hispanic		Black non-Hispanic		Hispanic		Asian non-Hispanic		Other ²	
	#	Rate ³	#	Rate ³	#	Rate ³	#	Rate ³	#	Rate ³	#	Rate ³
2001	407	5.0	245	4.1	71	12.1	69	7.3	15	3.1	7	4.1
2002	397	4.9	239	4.1	69	11.6	67	7.0	16	3.0	6	3.8
2003	383	4.8	235	4.1	75	12.7	55	5.6	14	2.7	4	-- ⁴
2004	376	4.8	210	3.8	70	11.5	75	7.6	15	2.7	6	3.5
2005	391	5.1	230	4.3	57	9.4	77	7.7	18	3.4	8	4.3
2006	369	4.8	220	4.1	72	11.1	63	5.9	10	1.8	3	-- ⁴
2007	380	4.9	206	3.9	66	10.2	81	7.4	18	3.1	4	-- ⁴
2008	381	5.0	192	3.7	79	11.9	86	7.9	16	2.7	8	5.1
2009	366	4.9	205	4.1	54	7.8	78	7.1	20	3.4	9	7.8
2010	319	4.4	163	3.4	56	8.2	65	6.1	25	4.3	7	4.4
2011	310	4.2	158	3.4	47	6.7	75	5.8	22	3.6	6	4.2
2012	309	4.3	158	3.5	57	8.2	71	5.4	17	2.6	4	-- ⁴
NEONATAL MORTALITY (birth to 27 days)												
Year	State Total ¹		White non-Hispanic		Black non-Hispanic		Hispanic		Asian, non-Hispanic		Other ²	
	#	Rate ³	#	Rate ³	#	Rate ³	#	Rate ³	#	Rate ³	#	Rate ³
2001	308	3.8	190	3.2	56	9.5	49	5.2	10	2.1	3	-- ⁴
2002	299	3.7	185	3.2	49	8.2	50	5.2	13	2.4	2	-- ⁴
2003	285	3.6	179	3.1	56	9.5	38	3.9	10	1.9	2	-- ⁴
2004	291	3.7	167	3.0	51	8.4	57	5.8	12	2.2	4	-- ⁴
2005	282	3.7	168	3.1	40	6.6	57	5.8	11	2.1	5	2.7
2006	279	3.6	173	3.3	53	8.2	42	3.9	7	1.3	3	-- ⁴
2007	263	3.4	141	2.7	48	7.4	53	4.9	15	2.6	4	-- ⁴
2008	290	3.8	152	2.9	57	8.6	65	6.0	10	1.7	6	3.8
2009	276	3.7	162	3.2	36	5.2	54	4.9	17	2.9	7	6.0
2010	238	3.3	121	2.5	43	6.3	47	4.4	20	3.4	5	4.6
2011	230	3.1	111	2.4	33	4.7	60	4.7	19	3.1	3	-- ⁴
2012	216	3.0	111	2.5	41	5.9	46	3.5	13	2.0	3	-- ⁴
POST NEONATAL MORTALITY (28-365 days)												
Year	State Total ¹		White non-Hispanic		Black non-Hispanic		Hispanic		Asian non-Hispanic		Other ²	
	#	Rate ³	#	Rate ³	#	Rate ³	#	Rate ³	#	Rate ³	#	Rate ³
2001	99	1.2	55	0.9	15	2.6	20	2.1	5	1.0	4	-- ⁴
2002	98	1.2	54	0.9	20	3.4	17	1.8	3	-- ⁴	4	-- ⁴
2003	98	1.2	56	1.0	19	3.2	17	1.7	4	-- ⁴	2	-- ⁴
2004	85	1.1	43	0.8	19	3.1	18	1.8	3	-- ⁴	2	-- ⁴
2005	109	1.4	62	1.2	17	2.8	20	2.0	7	1.3	3	-- ⁴
2006	90	1.2	47	0.9	19	2.9	21	2.0	3	-- ⁴	0	0.0
2007	117	1.5	65	1.2	18	2.8	28	2.6	3	-- ⁴	0	0.0
2008	91	1.2	40	0.8	22	3.3	21	1.9	6	1.0	2	-- ⁴
2009	90	1.2	43	0.9	18	2.6	24	2.2	3	-- ⁴	2	-- ⁴
2010	81	1.1	42	0.9	13	1.9	18	1.7	5	0.9	2	-- ⁴
2011	80	1.1	47	1.0	14	2.0	15	1.2	3	-- ⁴	3	-- ⁴
2012	93	1.3	47	1.0	16	2.3	25	1.9	4	-- ⁴	1	-- ⁴

1. Deaths of infants of unknown race are included in the total calculation. For rate computations, births of infants of unknown race are allocated into the race categories according to the distribution of births of known race. 2. Other: American Indian and Other races. 3. Rates are expressed per 1,000 live births. 4. Calculations based on values 1-4 are excluded.

Table 30. Infant, Neonatal, and Post Neonatal Deaths by Cause, Massachusetts: 2012

Cause of Death ¹	ICD-10 Code	Infant (<1 year)		Neonatal (<28 days)		Post Neonatal (28-365 days)	
		#	%	#	%	#	%
TOTAL		309	100.0	216	100.0	93	100.0
Infectious and parasitic diseases	A00-B99	5	1.6	1	--²	4	--²
Cancer	C00-C97	1	--²	0	0.0	1	--²
Diseases of the blood and blood forming organs (anemia)	D50-D89	3	--²	2	--²	1	--²
Diseases of nervous system and ear	G00-G98, H60-H93	4	--²	0	0.0	4	--²
Diseases of the respiratory system	J00-J98	6	1.9	2	--²	4	--²
Diseases of digestive system	K00-K92	1	--²	0	0.0	1	--²
Congenital malformations	Q00-Q99	53	17.2	38	17.6	15	16.1
Congenital malformations of nervous system	Q00-Q07	7	2.3	7	3.2	0	0.0
Anencephalus and similar malformations	Q00	2	-- ²	2	0.9	0	0.0
Congenital malformations of heart	Q20-Q24	8	2.6	6	2.8	2	-- ²
Congenital malformations of respiratory system	Q30-Q34	6	1.9	6	2.8	0	0.0
Congenital malformations of genitourinary system	Q50-Q64	3	-- ²	3	1.4	0	0.0
Congenital malformations of musculoskeletal system	Q65-Q85	8	2.6	4	1.9	4	-- ²
Chromosomal abnormalities	Q90-Q99	10	3.2	4	1.9	6	6.5
Certain conditions originating in the perinatal period	P00-P96	170	55.0	159	73.6	11	11.8
Newborn affected by maternal conditions which may be unrelated to present pregnancy	P00	1	-- ²	1	0.5	0	0.0
Newborn affected by maternal complications of pregnancy	P01	30	9.7	30	13.9	0	0.0
Newborn affected by complications of placenta, cord and membrane	P02	20	6.5	20	9.3	0	0.0
Newborn affected by other complications of labor and delivery	P03	2	-- ²	2	-- ²	0	0.0
Disorders relating to short gestation and low birthweight	P07	57	18.4	57	26.4	0	0.0
Intrauterine hypoxia and birth asphyxia	P20-P21	1	-- ²	1	-- ²	0	0.0
Respiratory distress of newborn	P22	5	1.6	5	2.3	0	0.0
Other respiratory conditions of newborn	P23-P28	10	3.2	8	3.7	2	-- ²
Infections specific to the perinatal period	P35-P39	7	2.3	5	2.3	2	-- ²
Neonatal hemorrhage	P50-P52, P54	6	1.9	6	2.8	0	0.0
Other and ill-defined conditions originating in the perinatal period	P90-P96	6	1.9	4	-- ²	2	-- ²
Symptoms, signs, and ill-defined conditions	R00-R99	51	16.5	9	4.2	42	45.2
Sudden Infant Death Syndrome (SIDS)	R95	12	3.9	3	-- ²	9	9.7
Unintentional Injuries	V01-X59	3	--²	1	--²	2	--²
Homicide	X85-Y09	2	--²	0	0.0	2	--²
All other causes	Residual	10	3.2	4	--²	6	6.5

1. Please see Technical Notes in the Appendix for an explanation of ICD-10 codes. 2. Calculations based on values 1-4 are excluded.

Table 31. Infant Deaths by Major Causes, Race and Hispanic Ethnicity, Massachusetts: 2012

Cause of Death ²	ICD-10 Code	White non-Hispanic ¹		Black non-Hispanic ¹		Asian non-Hispanic ¹		Hispanic	
		#	%	#	%	#	%	#	%
TOTAL		158	100.0%	57	100.0%	17	100.0%	71	100.0%
Certain conditions originating in the perinatal period	P00- P96	88	55.7%	29	50.9%	10	58.8%	39	54.9%
Congenital malformations	Q00-Q99	23	14.6%	15	26.3%	4	-- ³	11	15.5%
Symptoms, signs, and ill-defined conditions	R00-R99	27	17.1%	8	14.0%	1	-- ³	14	19.7%
SIDS	R95	7	4.4%	2	-- ³	0	0.0%	3	-- ³
Unintentional Injuries	V01-X59	1	-- ³	0	0.0%	0	0.0%	2	-- ³
Homicide	X85-Y09	0	0.0%	0	0.0%	0	0.0%	2	-- ³
All other causes	Residual	19	12.0%	5	8.8%	2	-- ³	3	-- ³

1. Race and ethnicity data in this table are presented as mutually exclusive categories and Cape Verdeans are not included with Blacks. Persons of Hispanic ethnicity are not included in a race category. Please see Technical Notes in the Appendix for a more detailed explanation. 2. Deaths are coded according to ICD-10. Please see Appendix for comparability ratios. 3. Calculations based on values 1-4 are excluded.

**Table 32. Target Status for Selected Healthy People 2020 Mortality Objectives
(underlying cause of death only)**

HEALTHY PEOPLE 2020 OBJECTIVE	TARGET 2020 ¹	MA 2010	MA 2011	MA 2012	TARGET STATUS
Overall Cancer death rate	160.6	171.0	166.1	166.7	O
Lung Cancer	45.5	47.3	44.7	45.4	✓
Female Breast Cancer (per 100,000 females)	20.6	19.1	19.4	19.7	✓
Uterine Cervix (per 100,000 females)	2.2	4.3	4.9	4.3	●
Colorectal Cancer	14.5	14.9	13.3	13.6	✓
Oropharyngeal Cancer	2.3	3.0	3.8	2.4	O
Prostate Cancer (per 100,000 males)	21.2	21.2	19.4	19.5	✓
Malignant Melanoma	2.4	3.1	3.6	2.9	O
COPD, ages 45+	98.5	84.4	92.3	87.7	✓
Coronary Heart Disease	100.8	96.5	92.3	88.1	✓
Stroke	33.8	31.2	30.2	28.7	✓
Cirrhosis	8.2	5.4	4.8	4.8	✓
Drug-induced deaths	11.3	12.5	14.9	14.7	●
HIV/AIDS	3.3	1.6	1.3	1.3	✓
Injury Deaths	53.3	43.3	43.9	42.6	✓
Residential fire deaths	0.9	0.2	0.3	0.3	✓
Falls	7.0	6.9	7.3	7.9	O
Falls, ages 65+	45.3	48.1	55.5	57.8	●
Firearm- related	9.2	4.0	3.8	3.5	✓
Poisonings	13.1	12.2	14.3	12.5	✓
Poisonings, ages 35-54	25.5	22.8	22.1	22.5	✓
Unintentional or Undetermined Intent injuries	11.1	10.9	12.5	12.5	O
Unintentional or Undetermined Intent injuries, ages 35-54	21.6	20.0	22.1	21.5	✓
Unintentional Injuries	36.0	28.3	30.0	30.0	✓
Motor vehicle crashes	12.4	5.4	5.5	5.3	✓
Drowning	1.1	1.2	1.1	1.0	✓
Hanging, strangulation or suffocation	1.7	5.8	5.8	5.7	●
Suffocation, persons 65+	7.2	12.3	13.5	13.5	●
Homicide	5.5	3.2	3.0	2.1	✓
Suicide	10.2	8.7	8.5	8.9	✓
Infant and Child Health					
Infant deaths (per 1,000 live births)	6.0	4.4	4.2	4.3	✓
Neonatal deaths (per 1,000 live births)	4.1	3.3	3.1	3.0	✓
Postneonatal deaths (per 1,000 live births)	2.0	1.1	1.1	1.3	✓
Birth defects (per 1,000 live births)	1.3	0.7	0.8	0.7	✓
Congenital heart defects (per 1,000 live births)	0.34	0.14	0.15	0.11	✓
Sudden infant death syndrome (SIDS) (per 1,000 live births)	0.50	0.47	0.30	0.17	✓
Child/Adolescent/Young Adults Death Rates					
1-4 years old	25.7	13.6	13.7	14.7	✓
5-9 years old	12.3	7.3	10.5	7.3	✓
10-14 years old	15.2	8.6	8.5	7.0	✓
15-19 years old	55.7	30.9	30.2	30.0	✓
20-24 years old	88.5	65.2	69.8	59.1	✓
Asthma deaths (per million)					
Ages 35-64 years	6.0	6.3	11.1	7.4	O
Ages 65+ years	22.9	29.9	33.6	36.9	●

✓ = YES, met target

O = NO, but within 25% of target

● = NO, > 25% from target

Note: Death rates are per 100,000 and age adjusted to the 2010 US Population except when noted.

1. Data 2020 the Healthy People 2020 Database. CDC Wonder website.

Table 33. Rank of Premature Mortality Rates for the Largest 30 Communities, Massachusetts: 2012 (Sorted by PMR)

Largest 30 Communities¹	Number of Premature Deaths	PMR² (per 100,000)
New Bedford	433	461.0*
Fall River	388	423.7*
Worcester	667	412.3*
Lowell	380	405.9*
Pittsfield	206	404.7*
Springfield	541	395.4*
Lynn	334	388.1*
Taunton	214	366.6*
Haverhill	217	356.9*
Brockton	326	349.9*
Chicopee	213	349.4*
Quincy	334	336.5*
Weymouth	202	335.4*
Boston	1,681	320.6*
Attleboro	145	319.5
Revere	167	316.2
Lawrence	194	312.1
Plymouth	191	292.0
Somerville	163	289.1
Framingham	195	282.0
Barnstable	163	275.4
Methuen	133	272.2
Peabody	158	263.2
Malden	154	260.0
Waltham	141	250.2
Medford	136	236.7*
Cambridge	192	228.9*
Arlington	86	182.7*
Brookline	91	158.0*
Newton	145	157.3*
STATE	19,389	274.4

1. These communities had the largest populations in Massachusetts, based on 2010 Census. Rates for cities and towns were calculated using MDPH population estimates for 2010, which are the most up-to-date information available on the number of persons by age, race, and sex at the sub-state level. 2. Rates are age-adjusted to the 2000 US Standard Population for person ages 0-74 years.

* significantly different from State PMR.

Table 34. Premature Mortality Rates by Community, Massachusetts: 2012

<u>City/Town</u>	<u>Premature Deaths (#)</u>	<u>PMR¹</u> (per 100,000 population)
STATE	19,389	274.4
Abington	54	327.0
Acton	50	218.7
Acushnet	27	211.7
Adams	30	317.4
Agawam	112	339.8
Alford	2	-- ²
Amesbury	57	327.8
Amherst	25	126.6
Andover	55	150.7
Aquinnah	1	-- ²
Arlington	86	182.7
Ashburnham	18	301.7
Ashby	14	464.5
Ashfield	3	-- ²
Ashland	37	217.9
Athol	46	345.0
Attleboro	145	319.5
Auburn	51	271.0
Avon	17	325.0
Ayer	45	654.7
Barnstable	163	275.4
Barre	13	226.7
Becket	12	470.2
Bedford	45	289.4
Belchertown	33	221.6
Bellingham	47	272.8
Belmont	45	162.3
Berkley	16	275.9
Berlin	9	212.8
Bernardston	10	405.5
Beverly	134	309.5
Billerica	130	290.6
Blackstone	36	407.1
Blandford	0	0.0
Bolton	8	171.2
Boston	1,681	320.6
Bourne	74	314.9
Boxborough	13	263.1
Boxford	14	120.5
Boylston	8	165.8
Braintree	118	302.8
Brewster	36	248.5
Bridgewater	55	219.5
Brimfield	6	133.0
Brockton	326	349.9
Brookfield	21	449.0
Brookline	91	158.0

Table 34. Premature Mortality Rates by Community, Massachusetts: 2012

<u>City/Town</u>	<u>Premature Deaths (#)</u>	<u>PMR¹</u> (per 100,000 population)
Buckland	4	-- ²
Burlington	75	265.2
Cambridge	192	228.9
Canton	64	270.2
Carlisle	10	175.2
Carver	43	338.3
Charlemont	1	-- ²
Charlton	37	290.6
Chatham	20	202.6
Chelmsford	103	260.1
Chelsea	102	385.6
Cheshire	16	332.5
Chester	5	225.9
Chesterfield	3	-- ²
Chicopee	213	349.4
Chilmark	2	-- ²
Clarksburg	5	331.7
Clinton	40	288.3
Cohasset	16	196.5
Colrain	9	465.2
Concord	34	169.5
Conway	3	-- ²
Cummington	3	-- ²
Dalton	34	421.7
Danvers	85	275.1
Dartmouth	90	248.7
Dedham	77	278.4
Deerfield	12	177.0
Dennis	67	316.7
Dighton	20	242.9
Douglas	25	317.9
Dover	11	244.2
Dracut	88	285.8
Dudley	25	221.4
Dunstable	11	329.0
Duxbury	36	203.2
East Bridgewater	50	333.5
East Brookfield	4	-- ²
East Longmeadow	47	280.0
Eastham	20	274.6
Easthampton	53	282.7
Easton	54	230.4
Edgartown	20	417.2
Egremont	3	-- ²
Erving	6	251.5
Essex	12	346.2
Everett	127	331.1
Fairhaven	63	319.1
Fall River	388	423.7
Falmouth	121	272.6

Table 34. Premature Mortality Rates by Community, Massachusetts: 2012

<u>City/Town</u>	<u>Premature Deaths (#)</u>	<u>PMR¹</u> (per 100,000 population)
Fitchburg	189	497.3
Florida	3	-- ²
Foxborough	45	237.7
Framingham	195	282.0
Franklin	60	222.8
Freetown	30	297.4
Gardner	83	402.2
Georgetown	21	215.6
Gill	3	-- ²
Gloucester	121	324.5
Goshen	2	-- ²
Gosnold	0	0.0
Grafton	30	175.8
Granby	20	291.5
Granville	3	-- ²
Great Barrington	21	233.4
Greenfield	72	360.2
Groton	17	163.1
Groveland	23	299.5
Hadley	18	290.4
Halifax	32	375.6
Hamilton	13	173.7
Hampden	16	220.2
Hancock	2	-- ²
Hanover	31	208.6
Hanson	25	234.0
Hardwick	12	397.4
Harvard	7	78.8
Harwich	59	369.0
Hatfield	11	235.5
Haverhill	217	356.9
Hawley	3	-- ²
Heath	2	-- ²
Hingham	48	208.1
Hinsdale	5	162.3
Holbrook	49	425.3
Holden	56	279.3
Holland	2	-- ²
Holliston	21	122.6
Holyoke	152	400.7
Hopedale	13	222.2
Hopkinton	31	234.4
Hubbardston	9	173.2
Hudson	52	246.3
Hull	24	169.1
Huntington	9	361.8
Ipswich	32	200.2
Kingston	35	259.4
Lakeville	28	246.0
Lancaster	15	187.8

Table 34. Premature Mortality Rates by Community, Massachusetts: 2012

<u>City/Town</u>	<u>Premature Deaths (#)</u>	<u>PMR¹</u> (per 100,000 population)
Lanesborough	5	110.3
Lawrence	194	312.1
Lee	19	247.3
Leicester	30	264.8
Lenox	12	156.9
Leominster	136	314.1
Leverett	6	182.3
Lexington	44	109.7
Leyden	3	-- ²
Lincoln	6	73.9
Littleton	12	123.7
Longmeadow	35	189.1
Lowell	380	405.9
Ludlow	55	218.0
Lunenburg	37	288.5
Lynn	334	388.1
Lynnfield	28	187.8
Malden	154	260.0
Manchester	13	212.6
Mansfield	46	219.7
Marblehead	43	171.1
Marion	13	261.0
Marlborough	109	285.3
Marshfield	74	244.9
Mashpee	55	285.1
Mattapoisett	17	278.2
Maynard	27	234.5
Medfield	11	100.6
Medford	136	236.7
Medway	35	293.9
Melrose	77	246.4
Mendon	15	259.1
Merrimac	22	306.9
Methuen	133	272.2
Middleborough	87	319.9
Middlefield	4	-- ²
Middleton	20	217.7
Milford	81	286.9
Millbury	41	277.8
Millis	26	298.2
Millville	4	-- ²
Milton	53	187.8
Monroe	1	-- ²
Monson	28	293.8
Montague	24	237.9
Monterey	1	-- ²
Montgomery	1	-- ²
Mount Washington	0	0.0
Nahant	10	226.3
Nantucket	23	202.9

Table 34. Premature Mortality Rates by Community, Massachusetts: 2012

<u>City/Town</u>	<u>Premature Deaths (#)</u>	<u>PMR¹</u> (per 100,000 population)
Natick	66	185.4
Needham	39	124.5
New Ashford	0	--
New Bedford	433	461.0
New Braintree	0	0.0
New Marlborough	4	-- ²
New Salem	1	-- ²
Newbury	16	212.0
Newburyport	43	210.6
Newton	145	157.3
Norfolk	21	203.7
North Adams	52	360.9
North Andover	63	228.5
North Attleboro	72	258.5
North Brookfield	18	383.2
North Reading	30	182.7
Northampton	86	279.8
Northborough	25	190.5
Northbridge	54	352.1
Northfield	7	193.7
Norton	62	330.2
Norwell	27	220.8
Norwood	75	237.1
Oak Bluffs	13	227.2
Oakham	6	324.7
Orange	48	571.4
Orleans	23	209.1
Otis	2	-- ²
Oxford	40	280.0
Palmer	48	362.9
Paxton	10	213.2
Peabody	158	263.2
Pelham	0	0.0
Pembroke	55	295.4
Pepperell	24	214.1
Peru	3	-- ²
Petersham	3	-- ²
Phillipston	9	665.3
Pittsfield	206	404.7
Plainfield	5	684.5
Plainville	24	259.4
Plymouth	191	292.0
Plympton	7	175.6
Princeton	14	345.5
Provincetown	16	293.7
Quincy	334	336.5
Randolph	89	265.5
Raynham	50	327.5
Reading	60	217.5
Rehoboth	32	238.0

Table 34. Premature Mortality Rates by Community, Massachusetts: 2012

<u>City/Town</u>	<u>Premature Deaths (#)</u>	<u>PMR¹</u> (per 100,000 population)
Revere	167	316.2
Richmond	3	-- ²
Rochester	6	86.4
Rockland	83	454.9
Rockport	23	215.9
Rowe	0	0.0
Rowley	8	139.1
Royalston	1	-- ²
Russell	5	248.2
Rutland	14	175.6
Salem	140	326.0
Salisbury	30	297.9
Sandisfield	7	417.7
Sandwich	55	220.7
Saugus	99	314.0
Savoy	1	-- ²
Scituate	50	224.5
Seekonk	33	180.8
Sharon	36	187.4
Sheffield	5	134.6
Shelburne	7	258.0
Sherborn	3	-- ²
Shirley	21	276.6
Shrewsbury	77	218.7
Shutesbury	5	305.7
Somerset	55	254.7
Somerville	163	289.1
South Hadley	48	266.5
Southampton	14	209.4
Southborough	23	210.3
Southbridge	59	359.1
Southwick	21	213.3
Spencer	51	388.9
Springfield	541	395.4
Sterling	22	240.2
Stockbridge	3	-- ²
Stoneham	62	232.9
Stoughton	93	286.0
Stow	14	211.4
Sturbridge	42	379.7
Sudbury	30	168.3
Sunderland	7	223.3
Sutton	24	239.2
Swampscott	25	144.5
Swansea	45	249.1
Taunton	214	366.6
Templeton	29	325.4
Tewksbury	88	255.1
Tisbury	7	128.8
Tolland	4	-- ²

Table 34. Premature Mortality Rates by Community, Massachusetts: 2012

<u>City/Town</u>	<u>Premature Deaths (#)</u>	<u>PMR¹</u> (per 100,000 population)
Topsfield	20	322.9
Townsend	22	213.1
Truro	10	338.6
Tyngsborough	35	303.7
Tyringham	1	-- ²
Upton	9	135.9
Uxbridge	48	348.5
Wakefield	67	236.3
Wales	8	346.1
Walpole	64	250.2
Waltham	141	250.2
Ware	44	399.6
Wareham	95	348.6
Warren	20	381.8
Warwick	2	-- ²
Washington	0	0.0
Watertown	78	227.8
Wayland	21	154.4
Webster	78	422.6
Wellesley	29	113.7
Wellfleet	16	405.2
Wendell	4	-- ²
Wenham	10	274.6
West Boylston	29	332.5
West Bridgewater	23	302.2
West Brookfield	15	387.8
West Newbury	2	-- ²
West Springfield	93	302.8
West Stockbridge	0	0.0
West Tisbury	4	-- ²
Westborough	30	173.3
Westfield	155	357.6
Westford	43	207.1
Westhampton	1	-- ²
Westminster	19	243.3
Weston	19	130.2
Westport	54	280.5
Westwood	23	158.7
Weymouth	202	335.4
Whately	6	275.1
Whitman	39	276.3
Wilbraham	37	208.8
Williamsburg	12	382.6
Williamstown	19	211.1
Wilmington	56	240.7
Winchendon	44	409.9
Winchester	35	146.7
Windsor	2	-- ²
Winthrop	63	289.0
Woburn	112	274.5

Table 34. Premature Mortality Rates by Community, Massachusetts: 2012

<u>City/Town</u>	<u>Premature Deaths (#)</u>	<u>PMR</u>¹ (per 100,000 population)
Worcester	667	412.3
Worthington	0	0.0
Wrentham	33	290.2
Yarmouth	103	310.8

1. PMR are age-adjusted to the 2000 US Standard Population for persons ages 0-74 years. 2. Age-adjusted rates based on values 1-4 are excluded.

Figure 17. Premature Mortality Rates Adjusted by Poverty Level, Massachusetts: 2012

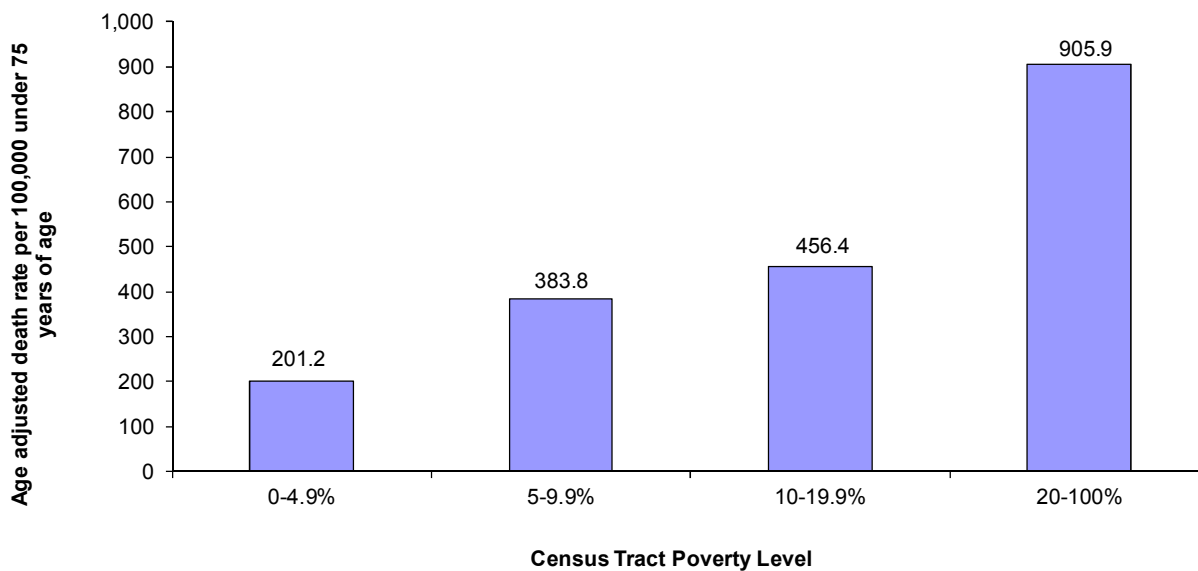


Figure 18. Percent of Deaths Amenable to Health Care, Massachusetts: 2012

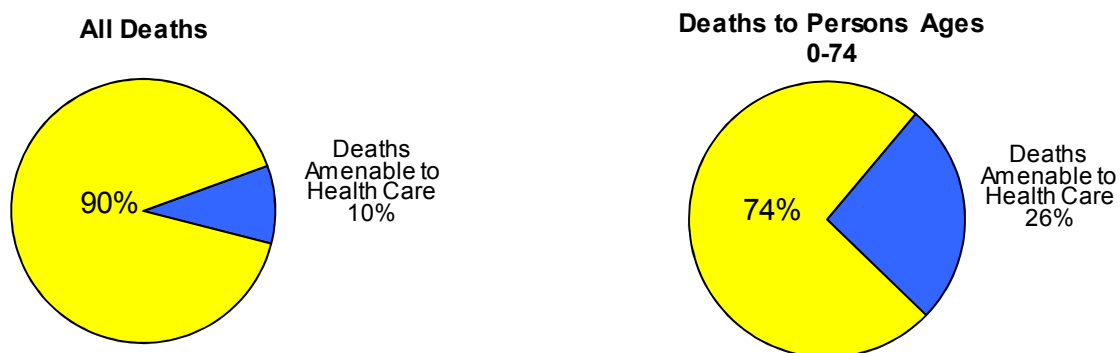


Figure 19. Amenable Mortality by Race and Hispanic ethnicity, Massachusetts: 2002-2012

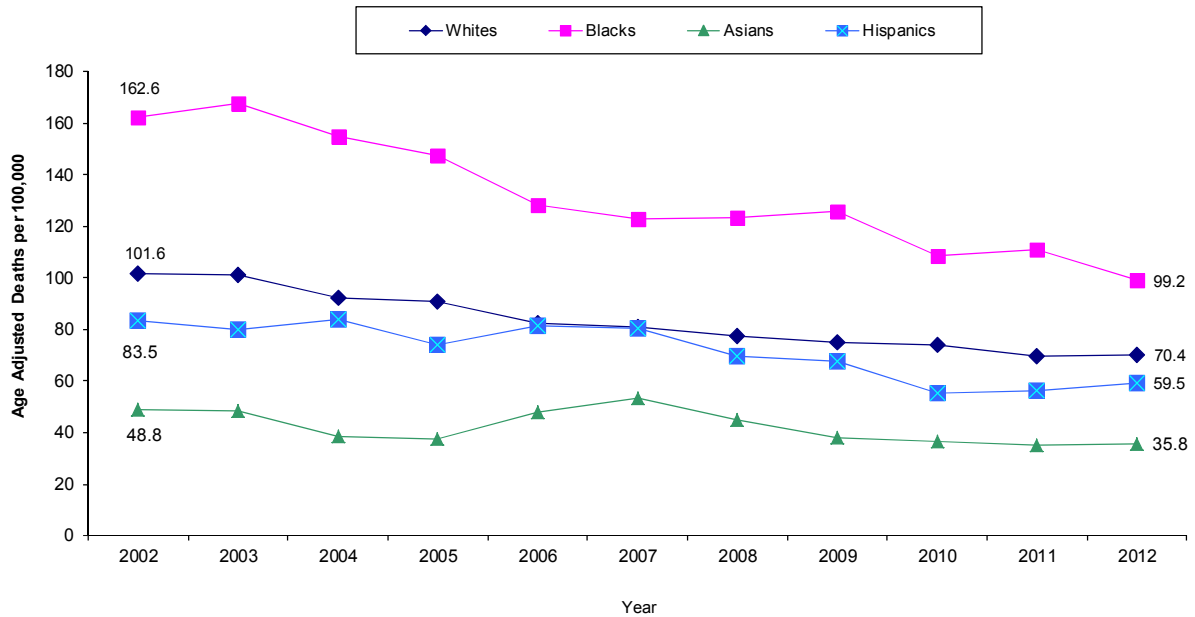


Table 35. Rank by Potential Years of Life Lost (PYLL), Massachusetts: 2012

Cause	Total PYLL	Rank on PYLL	Average PYLL	# of Deaths before 75 years	Rank on Number of Deaths
<i>All Causes</i>	<i>209,153</i>		<i>18.0</i>	<i>11,601</i>	
Cancer	46,707	1	13.2	3,527	1
Heart Disease	33,297	2	14.8	2,251	2
Unintentional Injuries	32,331	3	31.7	1,021	5
Suicide	13,727	4	31.6	434	13
Perinatal Conditions	6,751	5	74.2	91	22
Homicide	4,633	6	43.7	106	24
Diabetes	4,421	7	14.2	311	10
Stroke	3,362	8	13.3	253	4
HIV/AIDS	1,321	9	21.3	62	28
Alzheimer's Disease	352	10	8.0	44	6
Unintentional and Undetermined	33,618		31.7	1,061	11

Note: Total potential years of life lost is calculated by multiplying the number of deaths for each group by the years of life lost (the difference between life expectancy and the midpoint of the age group, then adding the figures for all age groups).

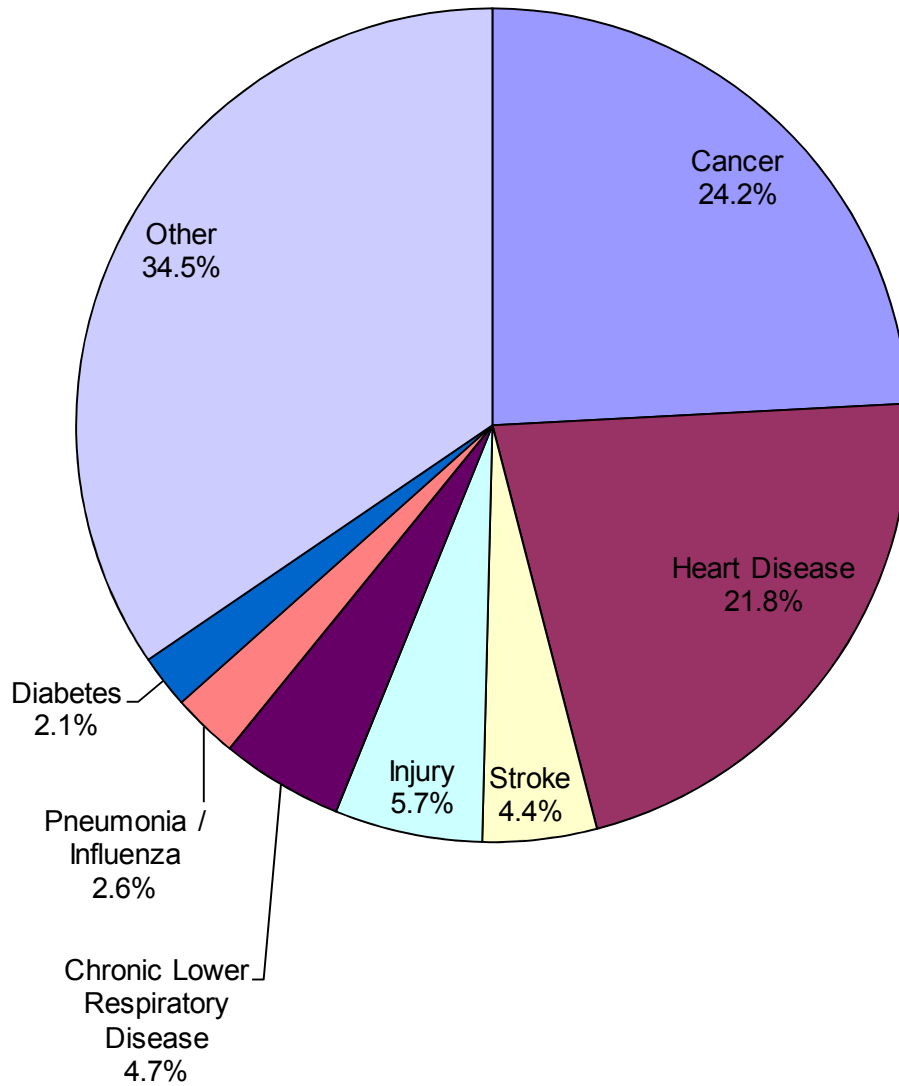
APPENDIX

Additional Tables & Figures

Technical Notes

Glossary

**Figure 20. Percent Distribution of Leading Underlying Causes of Death^{1, 2},
Massachusetts: 2012**



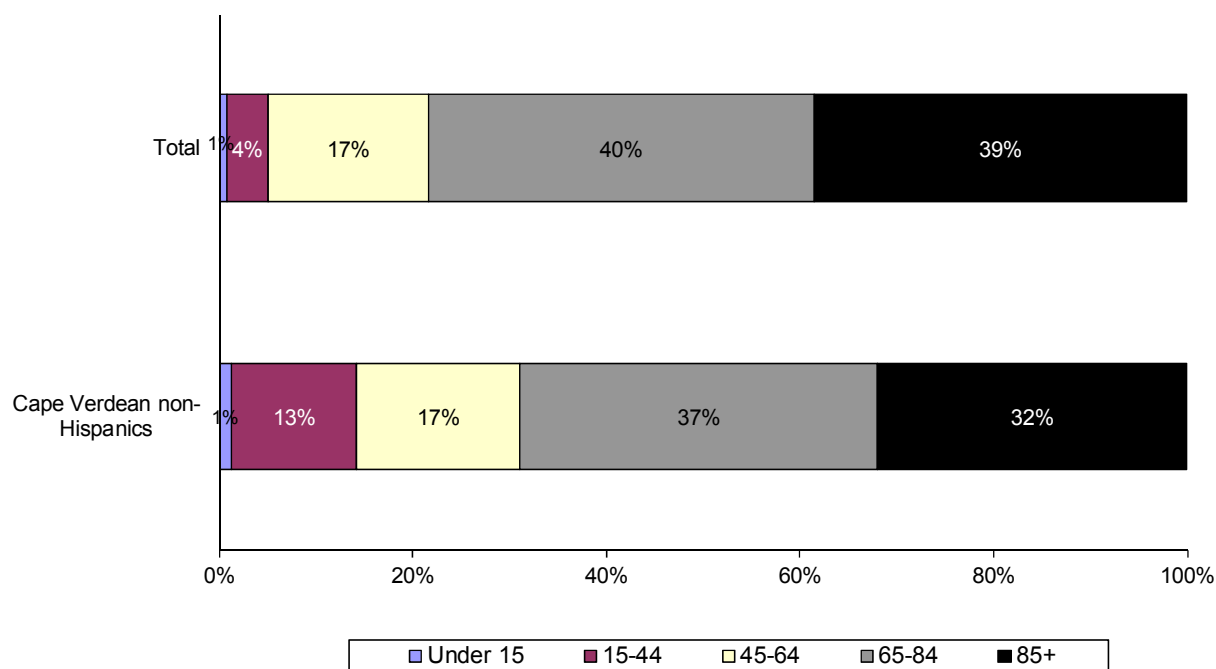
1. Total Number of Deaths = 53,169
2. Causes of Death are classified according to ICD-10

**Table 36. Leading Causes of Death for Cape Verdean non-Hispanics²,
Massachusetts: 2012**

Leading Causes of Death ¹	Number	Percent
Heart Disease	54	24.0
Cancer	45	20.0
Stroke	12	5.3
Unintentional Injuries	12	5.3
Nephritis	11	4.9
Alzheimer's Disease	9	4.0
Influenza and Pneumonia	6	2.7
Chronic Lower Respiratory Disease	5	2.2
Homicide	5	2.2
All other deaths	66	29.3
All Deaths	225	100.0%

1. Deaths are coded according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 2. Historically, MA DPH has followed federal definitions of race and ethnicity and has reported death rates for White, Black, Asian races including persons of Hispanic origin; and Hispanic ethnicity. Furthermore, Cape Verdeans have been included with Blacks to be consistent with the National Center for Health Statistics. Starting with Deaths 1999, in all tables where data were classified by race and ethnicity, we presented mutually exclusive categories of White; Black; Asian; and Hispanic. Here, we separate Cape Verdeans from the Black non-Hispanic group.

Figure 21. Age Distribution of Deaths for Cape Verdean non-Hispanics¹ and State Total, Massachusetts: 2012



1. Historically, MA DPH has followed federal definitions of race and ethnicity and has reported death rates for White, Black, Asian races including persons of Hispanic origin; and Hispanic ethnicity. Furthermore, Cape Verdeans have been included with Blacks to be consistent with the National Center for Health Statistics. Starting with Deaths 1999, in all tables where data were classified by race and ethnicity, we presented mutually exclusive categories of White; Black; Asian; and Hispanic. Here, we separate Cape Verdeans from the Black non-Hispanic group.

Table 37. Number and Age-Specific Rates for Selected Causes of Death by Race and Hispanic Ethnicity, Massachusetts: 2012

Selected Causes ²	<u>Total</u>		<u>White non-Hispanic¹</u>		<u>Black non-Hispanic¹</u>		<u>Asian non-Hispanic¹</u>		<u>Hispanic¹</u>	
	#	Rate ³	#	Rate	#	Rate	#	Rate	#	Rate
Age: 1-14, TOTAL	99	9.2	61	8.2	10	10.6	7	9.9	21	12.6
Cancer	26	2.4	16	2.2	1	-- ⁶	3	-- ⁶	6	3.6
Unintentional Injuries ⁴	15	1.4	9	1.2	2	-- ⁶	1	-- ⁶	3	-- ⁶
Ill-defined conditions	11	1.0	5	0.7	2	-- ⁶	1	-- ⁶	3	-- ⁶
Congenital malformations	9	0.8	7	0.9	1	-- ⁶	0	0.0	1	-- ⁶
Age: 15-24, TOTAL	419	44.8	269	40.5	69	85.1	19	30.7	55	43.6
Unintentional Injuries ⁴	161	17.2	130	19.6	12	14.8	3	-- ⁶	14	11.1
Suicide	81	8.7	53	8.0	7	8.6	7	11.3	11	8.7
Homicide	45	4.8	9	1.4	25	30.8	1	-- ⁶	9	7.1
Cancer	29	3.1	17	2.6	4	-- ⁶	5	8.1	3	-- ⁶
Age: 25-44, TOTAL	1,880	108.4	1,437	114.3	205	159.1	47	33.6	177	86.7
Unintentional Injuries ⁴	538	31.0	452	36.0	36	27.9	11	7.9	34	16.7
Cancer	275	15.9	204	16.2	35	27.2	14	10.0	20	9.8
Heart Disease	203	11.7	156	12.4	25	19.4	3	-- ⁶	19	9.3
Suicide	203	11.7	174	13.8	13	10.1	2	-- ⁶	12	5.9
Age: 45-64, TOTAL	8,791	475.8	7,579	489.1	596	573.4	169	215.7	428	383.9
Cancer	3,149	170.5	2,743	177.0	199	191.5	79	100.8	120	107.6
Heart Disease	1,612	87.3	1,400	90.4	122	117.4	29	37.0	59	52.9
Unintentional Injuries ⁴	575	31.1	507	32.7	36	34.6	6	7.7	23	20.6
Chronic liver disease	328	17.8	285	18.4	17	16.4	1	-- ⁶	24	21.5
Age: 65+, TOTAL	41,669	4,520.0	38,924	4,707.5	1,380	3,755.8	552	2,039.5	735	2,469.2
Heart Disease	9,744	1,057.0	9,192	1,111.7	306	832.8	86	317.8	142	477.0
Cancer	9,370	1,016.4	8,649	1,046.0	365	993.4	148	546.8	194	651.7
Chronic lower respiratory disease ⁵	2,273	246.6	2,185	264.3	32	87.1	24	88.7	31	104.1
Stroke	2,128	230.8	1,955	236.4	84	228.6	40	147.8	42	141.1

1. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. 2. Deaths are coded according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 3. Number of deaths per 100,000 persons in each age group. 4. Unintentional injuries include injuries such as motor vehicle-related and other transportation related deaths, falls, fires, and drownings that were not intended to occur. 5. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title). 6. Calculations based on values 1-4 are excluded.

Table 37 (continued). Number and Age-Specific Rates for Selected Causes of Death by Race and Hispanic Ethnicity, Massachusetts: 2012

Selected Causes²	<u>Total</u>		<u>White non-Hispanic¹</u>		<u>Black non-Hispanic¹</u>		<u>Asian non-Hispanic¹</u>		<u>Hispanic</u>	
	#	Rate³	#	Rate	#	Rate	#	Rate	#	Rate
Age: 65-74, TOTAL	7,891	1,666.6	7,043	1,693.8	425	1,984.4	122	741.4	280	1,478.0
Cancer	3,158	667.0	2,849	685.1	161	751.7	48	291.7	94	496.2
Heart Disease	1,428	301.6	1,268	304.9	93	434.2	18	109.4	46	242.8
Chronic Lower Respiratory Disease ⁵	493	104.1	470	113.0	9	42.0	4	-- ⁶	9	47.5
Stroke	249	52.6	205	49.3	19	88.7	5	30.4	17	89.7
Age: 75-84, TOTAL	13,272	4,448.9	12,316	4,555.6	466	4,162.9	215	2,630.0	252	3,084.8
Cancer	3,602	1,207.4	3,346	1,237.7	117	1,045.2	66	807.3	67	820.2
Heart Disease	2,759	924.8	2,559	946.6	107	955.9	33	403.7	55	673.3
Chronic Lower Respiratory Disease ⁵	900	301.7	860	318.1	14	125.1	11	134.6	15	183.6
Stroke	628	210.5	570	210.8	34	303.7	12	146.8	12	146.9
Age: 85+, TOTAL	20,506	13,663.5	19,565	13,906.6	489	11,834.5	215	8,829.6	203	7,648.8
Heart Disease	5,557	3,702.7	5,365	3,813.4	106	2,565.3	35	1,437.4	41	1,544.8
Cancer	2,610	1,739.1	2,454	1,744.3	87	2,105.5	34	1,396.3	33	1,243.4
Stroke	1,251	833.6	1,180	838.7	31	750.2	23	944.6	13	489.8
Alzheimer's	1,166	776.9	1,107	786.8	29	701.8	18	739.2	11	414.5

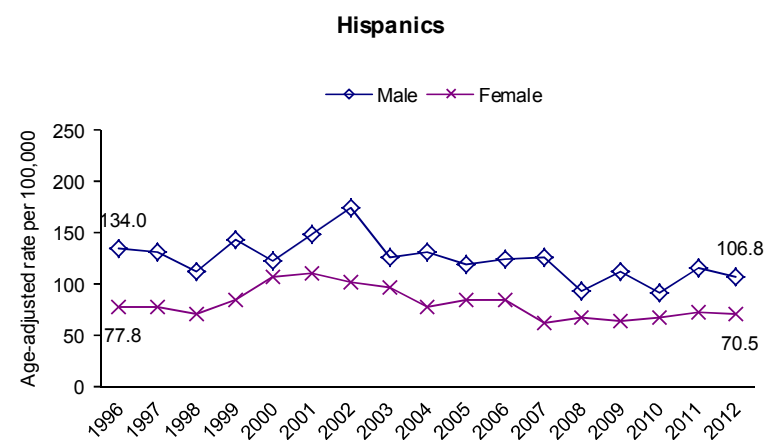
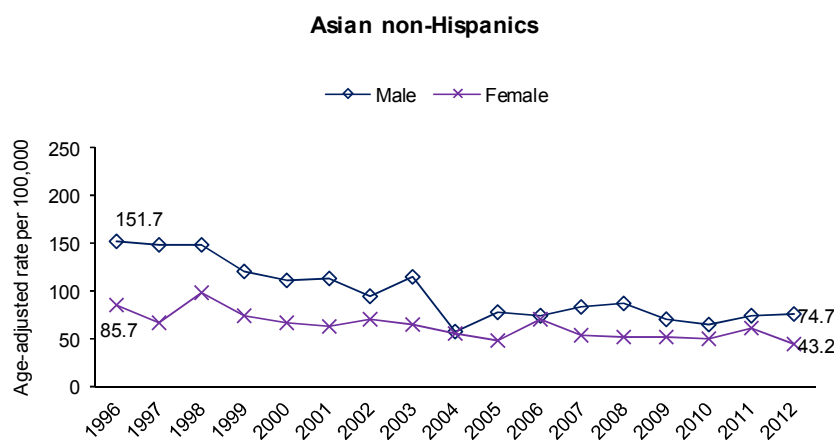
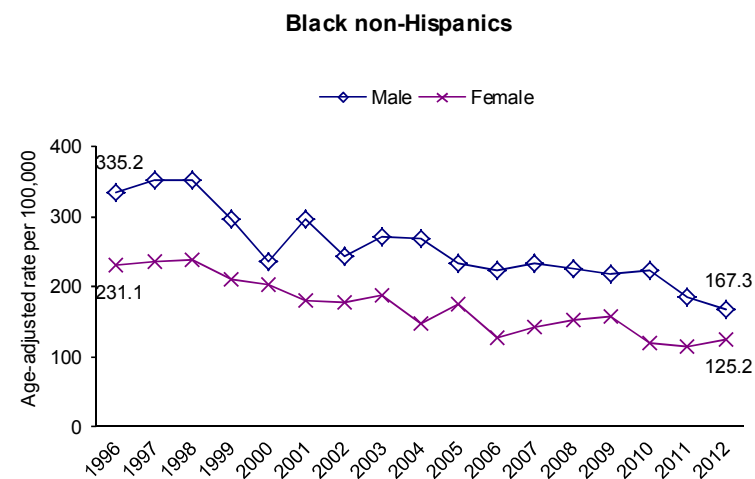
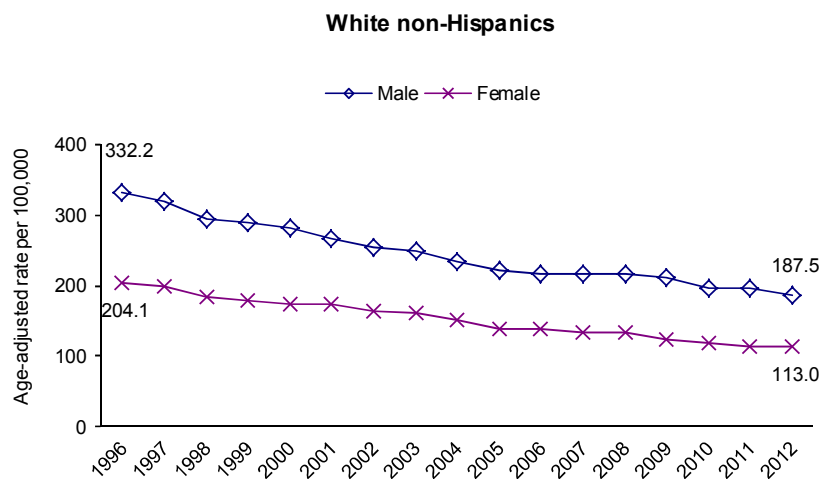
1. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. 2. Deaths are coded according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 3. Number of deaths per 100,000 persons in each age group. 4. Unintentional injuries include injuries such as motor vehicle-related and other transportation related deaths, falls, fires, and drownings that were not intended to occur. 5. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title). 6. Calculations based on values 1-4 are excluded.

Table 38. Number of Deaths for Leading Causes of Death by Hispanic Ethnicity, Massachusetts: 2012

Ethnicity \Leading Causes of Death¹	Cancer	Heart Disease	Unintentional Injuries	Stroke	Diabetes	Ill-defined conditions	Perinatal	Chronic lower respiratory disease	Nephritis	Homicide	ALL DEATHS
Puerto Rican	194	153	59	35	37	34	29	24	25	17	940
Dominican	66	30	13	12	6	7	5	7	9	6	223
Central American	34	15	7	6	5	4	2	2	0	4	115
South American	27	15	7	5	4	5	0	3	1	1	105
Cuban	11	10	2	4	3	2	0	1	3	0	52
Mexican	9	1	1	2	2	1	0	1	0	1	30
Other/Unknown	2	0	3	2	1	2	3	0	0	0	21
All Hispanics	343	224	92	66	58	55	39	38	38	29	1,487

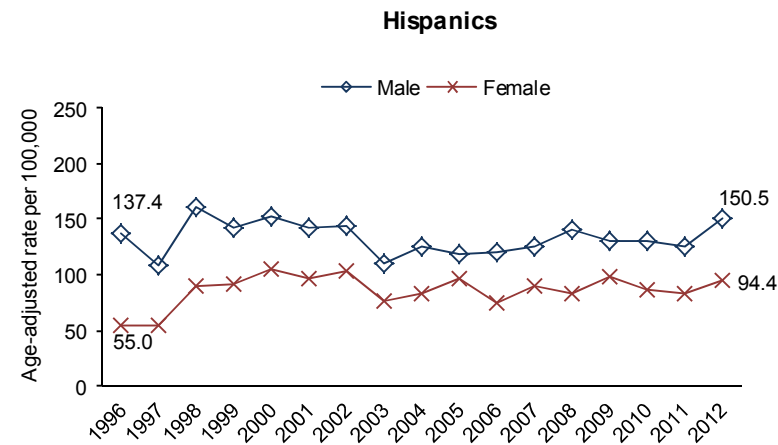
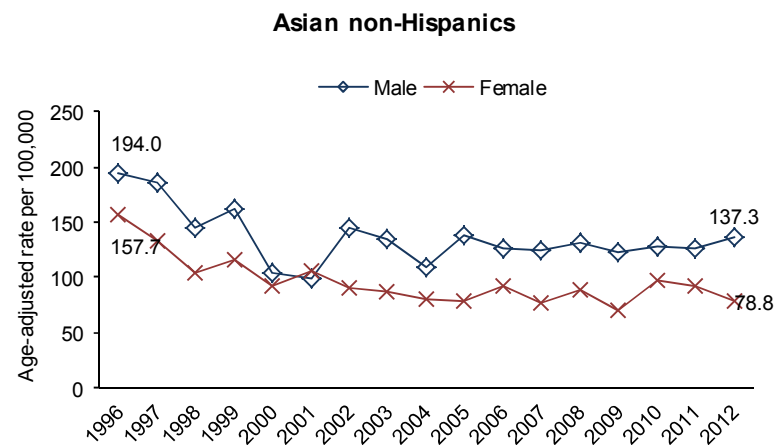
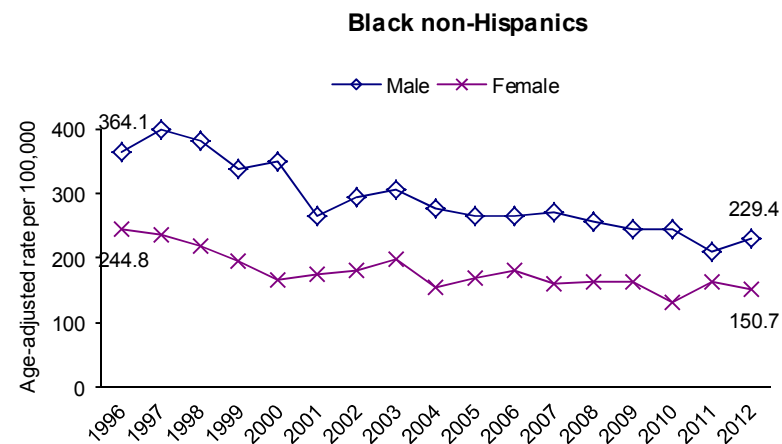
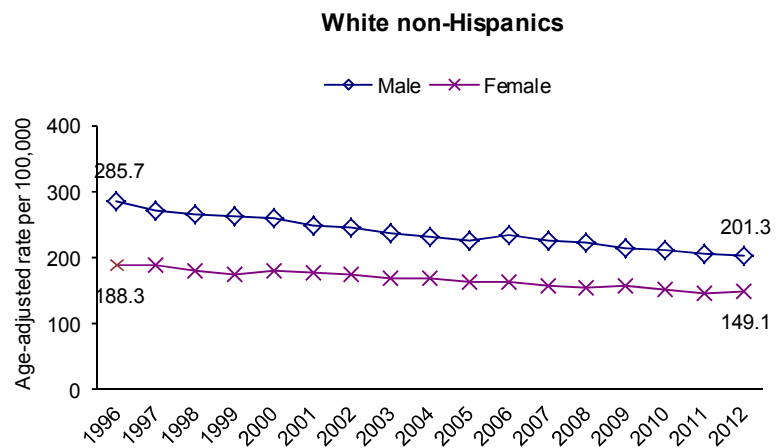
1. Ranking based on number of deaths. Underlying Cause of Death based on ICD-10 (Please see Appendix for a list of ICD-10 codes used).

Figure 22. Heart Disease Death Rates¹ by Race/Ethnicity and Gender, Massachusetts: 1996-2012²



1. Rates are per 100,000 population, age-adjusted to the 2010 U.S. Standard Population. 2. For 1996-1998 the comparability-modified rates were used)

Figure 23. Cancer Death Rates¹ by Race/Ethnicity and Gender, Massachusetts: 1996-2012²



1. Rates are per 100,000 population, age-adjusted to the 2010 U.S. Standard Population. 2. For 1996-1998 the comparability-modified rates were used)

Table 39. Underlying Cause of Death where Diabetes¹ is a Contributing Cause, Massachusetts: 2012

Underlying Cause of Death	Number	Proportion (%)
Cardiovascular Diseases	1,043	44.2
Heart Disease	885	37.5
Stroke	118	5.0
Cancer	394	16.7
Diseases of the respiratory system	233	9.9
Chronic lower respiratory disease ²	154	6.5
Influenza and pneumonia	43	1.8
Diseases of the digestive system	94	4.0
Diseases of the genito-urinary system	33	1.4
Nephritis	9	0.4
Diseases of the nervous system and sense organs	122	5.2
Alzheimer's Disease	83	3.5
Parkinson's Disease	15	0.6
Infectious and parasitic diseases	67	2.8
HIV/AIDS	4	-- ³
Injury and poisoning	106	4.5
Endocrine, nutritional and metabolic diseases and immunity disorders	41	1.7
Diseases of the musculoskeletal systems and connective tissue	12	0.5
Other	215	9.1
Total deaths where diabetes is ONLY a contributing cause	2,360	100%

1. ICD-10: E10-E14. 2. The title of this cause has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title). 3. Calculations based on values . 1-4 are excluded.

Table 40. Associated Causes of Death where Diabetes¹ is the Underlying Cause of Death, Massachusetts: 2012

Associated Causes of Death	Number	Proportion (%)
Cardiovascular Disease alone	526	47.9%
Cardiovascular Disease and Diseases of the Genitourinary System	205	18.7%
No Associated Causes	98	8.9%
Other Associated Cause Combinations less than 10	67	6.1%
Diseases of the Genitourinary System alone	64	5.8%
Cardiovascular Disease and Diseases of the Respiratory System	62	5.6%
Cardiovascular Disease, Diseases of the Respiratory System and Diseases of the Genitourinary System	29	2.6%
Cardiovascular Disease and Diseases of the Nervous System	19	1.7%
Cancer & Cardiovascular Disease	17	1.5%
Diseases of the Respiratory System alone	11	1.0%
Total deaths where diabetes is the underlying cause of death	1,098	100.0%

1. **ICD-10:** E10-E14

Table 41. HIV/AIDS Deaths by Race, Hispanic Ethnicity, and Gender of Persons Ages 25-44, Massachusetts: 2000-2012

<u>TOTAL</u>¹	White non-Hispanic²		Black non-Hispanic²		Hispanic	
Year	#	Rate³	#	Rate³	#	Rate³
2000	60	3.7	28	23.8	40	27.6
2001	70	4.4	35	29.3	31	20.3
2002	42	2.7	24	20.1	35	22.1
2003	63	4.1	19	15.8	25	15.1
2004	38	2.6	17	14.0	31	18.0
2005	29	2.0	22	18.2	19	10.7
2006	35	2.5	17	14.2	23	12.9
2007	16	1.2	11	9.1	12	6.6
2008	19	1.4	9	7.4	8	4.3
2009	11	0.8	7	5.7	12	6.3
2010	9	0.7	6	4.7	12	6.1
2011	6	0.5	7	5.4	7	3.4
2012	6	0.5	3	-- ⁴	9	4.4
<u>MALE</u>						
2000	39	4.9	17	30.1	27	37.9
2001	46	5.8	19	33.3	23	30.6
2002	29	3.8	15	26.3	21	26.8
2003	42	5.6	10	17.3	19	23.1
2004	30	4.1	11	18.9	19	22.1
2005	21	2.9	12	20.4	11	12.3
2006	22	3.2	12	20.5	12	13.3
2007	16	2.4	5	8.5	9	9.7
2008	13	2.0	3	-- ⁴	6	6.2
2009	8	1.2	4	-- ⁴	5	5.5
2010	3	-- ⁴	3	-- ⁴	3	-- ⁴
2011	4	-- ⁴	4	-- ⁴	3	-- ⁴
2012	5	0.8	1	-- ⁴	5	4.8
<u>FEMALE</u>						
2000	21	2.5	11	17.9	13	17.6
2001	24	2.9	16	25.7	8	10.3
2002	13	1.6	9	14.4	14	17.4
2003	21	2.7	9	14.4	6	7.2
2004	8	1.1	6	9.6	12	13.9
2005	8	1.1	10	16.0	8	9.0
2006	13	1.8	5	8.2	11	12.5
2007	0	0.0	6	9.8	3	-- ⁴
2008	6	0.9	6	9.8	2	-- ⁴
2009	3	-- ⁴	3	-- ⁴	7	7.0
2010	6	0.9	3	-- ⁴	9	9.3
2011	2	-- ⁴	3	-- ⁴	4	-- ⁴
2012	1	-- ⁴	2	-- ⁴	4	-- ⁴

1. AIDS and HIV disease deaths coded using ICD-10: B20-B24. 2. Race and ethnicity data in this table are presented as mutually exclusive categories. Persons of Hispanic ethnicity are not included in a race category. Please see Technical Notes in the Appendix for a more detailed explanation. 3. Number of deaths per 100,000 residents in the specified population group. 4. Calculations based on values 1-4 are excluded.

**Table 42. Premature Mortality Rates by Community Health Network Area (CHNA),
Massachusetts: 2012**

CHNA (Name and Number)	Number of Deaths	PMR¹ (per 100,000 population)
Massachusetts	19,389	274.4
1. Community Health Network of Berkshire	478	299.6
2. Upper Valley Health Web (Franklin County)	308	293.3
3. Partnership for Health in Hampshire County (Northampton)	382	248.2
4. The Community Health Connection (Springfield)	991	330.9
5. Community Health Network of Southern Worcester County	426	332.8
6. Community Partners for Health (Milford)	451	276.4
7. Community Health Network of Greater Metro West (Framingham)	908	222.3
8. Common Pathways (Worcester)	999	333.5
9. Community Health Network of North Central Massachusetts	867	316.2
10. Greater Lowell Community Health Network	878	311.2
11. Greater Lawrence Community Health Network	465	252.3
12. Greater Haverhill Community Health Network	453	278.3
13. Community Health Network North (Beverly/Gloucester)	378	275.1
14. North Shore Community Health Network	922	296.1
15. Northwest Suburban Health Alliance	492	202.7
16. North Suburban Health Alliance (Medford/Malden/Melrose)	713	250.7
17. Greater Cambridge/Somerville Community Health Network	564	224.0
18. West Suburban Health Network (Newton/Waltham)	484	177.8
19. Alliance for Community Health (Boston/Chelsea/Revere/Winthrop)	2,104	307.4
20. Blue Hills Community Health Alliance (Greater Quincy)	1,136	271.2
21. Community Health Network of Chicopee, Holyoke, Ludlow, Westfield	589	345.2
22. Greater Brockton Community Health Network	760	309.6
23. South Shore Community Health Network	612	285.0
24. Greater Attleboro-Taunton Health & Education Response	805	298.7
25. Partners for Healthier Communities (Fall River)	542	356.1
26. Greater New Bedford Community Health Network	774	349.0
27. Cape Cod and Islands Health Network	907	274.6

1. Rates are per 100,000 population age-adjusted to the 2000 US Standard Population for persons ages 0-74 years.

Table 43. Premature Mortality Rates by County, Massachusetts: 2012

County	Number of Deaths	PMR¹ (per 100,000 population)
Massachusetts	19,389	274.4
Barnstable	838	281.4
Berkshire	478	299.6
Bristol	1,929	330.4
Dukes	46	221.9
Essex	2,218	277.8
Franklin	249	286.9
Hampden	1,587	332.6
Hampshire	391	249.9
Middlesex	3,701	238.3
Nantucket	23	202.9
Norfolk	1,782	247.8
Plymouth	1,554	284.1
Suffolk	2,013	321.0
Worcester	2,579	317.9

1. Rates are per 100,000 population age-adjusted to the 2000 US Standard Population for persons ages 0-74 years.

Table 44. Selected Causes of Death by Community, Massachusetts: 2012

CITY/TOWN	Total Deaths	Age-Adjusted Death Rate ¹	Heart Disease	Total Cancer	Lung Cancer	Breast Cancer ²	Stroke	CLRD ³	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	Opioid-related ⁵
Massachusetts	53,169	669.2	11,585	12,850	3,455	858	2,360	2,519	1,098	1,356	368	140	616	711
Abington	131	847.5	31	30	14	2	6	10	4	4	0	0	2	1
Acton	134	667.1	18	32	3	3	12	7	3	1	0	0	2	3
Acushnet	69	507.8	15	21	4	3	3	0	0	2	0	0	3	2
Adams	103	754.2	17	24	8	1	9	5	3	4	0	0	1	1
Agawam	349	751.9	74	78	20	4	16	20	9	8	2	1	4	2
Alford	5	412.7	3	0	0	0	0	1	0	0	0	0	0	0
Amesbury	147	816.9	33	33	8	3	10	6	3	3	0	0	3	1
Amherst	136	545.7	32	40	10	5	9	5	1	6	2	0	1	0
Andover	207	525.7	43	44	6	5	9	8	4	3	4	0	2	1
Aquinnah	4	-- ⁴	1	0	0	0	1	0	0	0	0	0	0	0
Arlington	348	562.6	70	89	18	7	21	13	2	9	1	0	5	4
Ashburnham	34	678.5	11	9	5	0	0	3	0	3	1	0	1	0
Ashby	25	1,003.0	4	7	0	1	2	1	1	0	0	0	1	0
Ashfield	10	456.0	1	2	1	0	0	2	0	2	0	0	0	0
Ashland	88	586.8	20	30	10	0	6	3	2	2	0	0	0	1
Athol	110	679.0	22	27	8	2	5	9	3	3	0	0	2	2
Attleboro	357	732.3	81	85	25	3	13	23	6	14	1	1	6	4
Auburn	171	651.2	43	31	5	0	11	8	1	7	0	0	1	0
Avon	42	701.9	7	12	8	1	2	2	1	1	0	0	0	2
Ayer	96	1,330.6	18	27	5	2	4	9	2	2	2	1	0	0
Barnstable	487	648.5	107	119	29	11	17	29	11	11	4	0	4	5
Barre	37	622.8	12	10	4	0	2	3	0	1	0	0	0	1
Becket	19	934.2	4	8	2	0	0	0	0	0	1	0	1	0
Bedford	162	720.6	32	34	6	4	5	11	3	4	1	0	0	2
Belchertown	82	661.8	19	26	4	2	6	2	1	2	0	0	0	1
Bellingham	105	696.1	22	32	8	2	4	6	1	7	1	0	3	3
Belmont	191	569.8	40	46	11	5	6	10	4	3	1	0	0	0
Berkley	31	739.3	8	7	2	1	1	2	0	1	1	0	1	2
Berlin	22	566.6	6	7	3	0	0	1	0	2	0	0	0	0
Bernardston	22	761.7	5	4	0	0	0	0	0	1	0	0	1	2
Beverly	393	760.2	79	91	23	1	20	18	7	10	3	0	3	7
Billerica	297	812.0	61	82	34	5	9	11	5	5	3	1	6	1
Blackstone	72	808.4	16	22	7	1	1	2	4	0	0	0	1	0
Blandford	5	427.3	2	1	1	0	0	0	0	0	0	0	0	0

Table 44. Selected Causes of Death by Community, Massachusetts: 2012

CITY/TOWN	Total Deaths	Age-Adjusted Death Rate ¹	Heart Disease	Total Cancer	Lung Cancer	Breast Cancer ²	Stroke	CLRD ³	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	Opioid-related ⁵
Dalton	98	910.0	24	20	6	1	7	4	0	0	0	0	2	1
Danvers	302	719.9	54	55	14	5	15	20	7	10	2	0	2	5
Dartmouth	306	648.8	77	88	20	4	6	6	4	6	3	0	1	2
Dedham	318	741.2	94	70	22	3	19	13	3	2	0	1	0	2
Deerfield	34	523.3	6	4	2	0	2	3	1	0	0	0	1	0
Dennis	199	633.5	47	49	10	3	12	7	4	5	1	0	3	2
Dighton	50	639.3	14	10	2	2	5	2	0	2	1	0	1	0
Douglas	39	612.3	10	11	3	1	3	1	1	0	0	0	1	1
Dover	22	489.4	4	3	0	0	0	1	0	0	0	0	1	0
Dracut	229	745.3	49	65	17	2	12	11	5	8	0	0	3	3
Dudley	72	640.5	13	17	5	0	2	5	3	5	1	1	0	1
Dunstable	17	655.5	1	10	2	1	0	1	1	0	0	0	0	1
Duxbury	124	600.9	21	30	10	0	8	9	4	4	0	0	2	2
East Bridgewater	109	784.4	30	22	3	0	6	7	0	3	0	0	1	0
East Brookfield	10	433.8	1	2	1	0	1	0	0	0	1	0	0	0
East Longmeadow	185	661.9	42	48	19	4	4	10	2	5	2	0	0	3
Eastham	71	631.6	18	15	5	0	3	3	0	2	0	0	2	0
Easthampton	144	671.1	31	44	10	4	4	11	2	4	0	1	1	3
Easton	144	663.2	27	37	4	3	7	7	1	8	1	0	1	1
Edgartown	43	951.8	5	14	2	0	5	0	0	1	1	0	4	0
Egremont	17	818.4	3	3	1	0	1	0	1	2	0	0	0	0
Erving	10	418.8	5	2	0	0	1	0	0	0	0	0	0	0
Essex	28	712.0	7	7	2	0	1	0	0	0	0	0	0	1
Everett	307	733.4	61	68	24	1	17	16	6	6	2	1	2	10
Fairhaven	238	862.4	64	57	24	4	10	10	4	5	0	1	1	1
Fall River	984	844.6	232	206	59	12	45	44	22	22	16	2	6	23
Falmouth	415	669.9	97	100	31	8	15	24	4	5	4	1	3	4
Fitchburg	411	932.7	98	94	29	3	32	9	17	5	2	2	6	5
Florida	8	987.9	5	2	1	0	0	0	0	0	0	0	0	0
Foxborough	111	620.3	20	35	7	5	7	3	3	2	1	0	1	0
Framingham	527	619.4	136	123	32	4	14	32	16	9	5	1	3	6
Franklin	173	672.3	32	43	8	3	6	7	3	5	2	0	5	2
Freetown	65	813.2	12	18	6	1	3	2	0	3	2	0	0	1
Gardner	207	775.2	49	50	10	5	18	10	5	8	2	0	6	1
Georgetown	59	840.5	18	19	4	2	0	6	2	0	0	0	0	0
Gill	9	565.8	2	5	2	0	0	0	0	0	0	0	0	0

Table 44. Selected Causes of Death by Community, Massachusetts: 2012

CITY/TOWN	Total Deaths	Age-Adjusted Death Rate ¹	Heart Disease	Total Cancer	Lung Cancer	Breast Cancer ²	Stroke	CLRD ³	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	Opioid-related ⁵
Gloucester	306	730.2	68	75	29	6	9	20	9	6	5	0	5	2
Goshen	3	-- ⁴	1	0	0	0	0	0	1	0	0	0	0	0
Gosnold	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
Grafton	88	536.0	20	23	6	2	1	5	2	1	1	0	3	0
Granby	46	715.3	9	17	2	1	1	5	0	1	1	0	0	0
Granville	15	936.5	4	5	1	0	2	0	0	0	0	0	0	0
Great Barrington	80	673.1	23	11	3	1	1	3	0	2	0	0	1	1
Greenfield	220	796.6	53	43	9	5	9	20	5	8	0	0	2	4
Groton	47	503.6	16	12	1	0	0	3	0	0	1	0	2	0
Groveland	51	639.3	5	14	4	1	3	3	0	1	1	0	0	0
Hadley	75	753.8	8	19	3	2	7	2	3	3	1	0	1	0
Halifax	68	811.4	13	21	9	1	2	4	1	4	1	0	0	1
Hamilton	35	459.2	8	13	4	0	1	2	1	1	0	0	0	0
Hampden	51	676.1	9	16	2	0	4	1	0	0	1	0	0	0
Hancock	7	718.5	2	1	0	0	0	1	0	0	1	0	0	0
Hanover	90	649.3	13	27	9	0	3	6	2	6	1	0	2	1
Hanson	76	929.8	23	22	6	3	0	3	1	1	3	0	1	1
Hardwick	25	798.4	7	10	3	0	1	0	1	0	0	0	1	0
Harvard	32	707.3	12	5	1	0	2	2	0	2	0	0	0	0
Harwich	199	772.6	53	46	10	1	13	10	9	6	2	0	3	2
Hatfield	34	709.1	9	6	0	1	4	0	1	1	1	0	0	0
Haverhill	521	758.9	154	122	35	13	19	14	6	12	4	1	6	13
Hawley	5	1,068.6	1	1	0	0	1	0	0	0	0	0	0	0
Heath	6	674.5	1	1	0	0	1	0	0	0	0	0	0	0
Hingham	220	569.5	54	53	15	4	12	12	3	6	0	0	0	2
Hinsdale	15	574.1	2	1	0	0	0	0	0	0	0	0	0	0
Holbrook	113	886.8	24	23	7	2	7	9	5	4	0	0	2	1
Holden	135	621.9	22	32	9	4	2	3	5	4	0	0	3	1
Holland	7	392.0	1	0	0	0	0	0	0	1	0	0	0	0
Holliston	74	583.3	14	23	6	2	4	4	0	1	0	0	0	0
Holyoke	399	770.8	95	85	18	10	21	16	10	11	3	3	3	5
Hopedale	51	630.8	15	7	2	0	5	3	3	2	0	0	0	0
Hopkinton	75	737.5	16	21	5	2	4	6	2	0	1	0	1	1
Hubbardston	17	476.1	4	4	1	1	3	0	0	0	1	0	0	0
Hudson	121	582.9	22	33	8	0	3	4	4	7	0	0	1	2
Hull	56	471.8	14	14	5	0	1	2	1	2	0	0	0	1

Table 44. Selected Causes of Death by Community, Massachusetts: 2012

CITY/TOWN	Total Deaths	Age-Adjusted Death Rate ¹	Heart Disease	Total Cancer	Lung Cancer	Breast Cancer ²	Stroke	CLRD ³	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	Opioid-related ⁵
Huntington	19	897.4	4	7	1	0	2	0	0	0	0	1	1	0
Ipswich	96	486.7	20	26	8	1	4	2	2	2	1	0	1	3
Kingston	125	695.0	22	20	9	0	11	7	2	3	0	0	0	0
Lakeville	65	615.8	11	24	11	0	1	5	0	2	1	0	1	0
Lancaster	60	780.2	11	10	3	0	2	3	1	0	0	0	0	2
Lanesborough	18	478.2	2	6	1	0	0	0	1	0	0	0	0	0
Lawrence	411	687.7	90	81	22	7	14	26	14	7	2	0	3	6
Lee	64	653.3	18	8	3	1	3	4	1	0	0	0	0	0
Leicester	71	609.3	16	25	13	0	1	4	0	2	0	0	0	0
Lenox	83	511.0	17	11	1	2	7	14	1	1	0	0	0	0
Leominster	393	760.6	89	79	23	9	27	21	8	13	5	0	2	4
Leverett	12	533.7	3	3	1	0	0	3	0	0	0	0	0	0
Lexington	242	433.3	39	49	11	2	10	6	4	5	1	0	2	1
Leyden	7	1,422.1	1	3	1	0	0	0	0	0	0	0	0	0
Lincoln	38	439.7	9	9	1	1	1	2	0	0	0	0	0	0
Littleton	47	428.7	9	11	3	1	3	2	0	1	0	0	0	0
Longmeadow	174	562.3	39	38	2	7	8	5	3	7	0	0	4	2
Lowell	795	839.4	163	176	57	8	33	37	17	21	6	2	9	8
Ludlow	191	640.8	44	54	16	3	8	12	2	7	1	0	1	1
Lunenburg	76	660.9	25	22	6	2	1	4	2	1	1	0	2	1
Lynn	720	802.0	135	186	55	10	20	34	13	14	4	5	4	22
Lynnfield	89	499.8	19	27	6	1	3	4	2	1	0	0	1	0
Malden	388	636.2	68	104	31	7	10	17	15	15	2	1	3	9
Manchester	30	431.3	7	5	2	1	2	2	0	0	0	0	0	0
Mansfield	115	644.3	30	25	7	2	3	3	2	2	2	0	1	0
Marblehead	141	518.2	35	36	7	0	10	6	2	3	1	0	2	3
Marion	53	672.1	12	18	5	0	1	4	1	0	0	0	1	0
Marlborough	308	712.0	68	68	17	5	17	15	3	11	4	1	6	3
Marshfield	195	803.1	54	43	12	3	8	7	5	6	1	0	6	5
Mashpee	143	609.9	32	38	10	3	6	6	3	1	0	0	0	0
Mattapoisett	46	579.5	11	17	5	1	0	1	1	1	1	1	0	0
Maynard	58	530.8	7	16	2	0	4	4	2	3	0	0	2	2
Medfield	48	422.8	9	14	2	1	2	2	0	1	0	0	2	0
Medford	506	647.4	104	121	35	7	21	21	6	13	4	0	4	11
Medway	96	801.4	20	28	8	1	2	7	2	4	1	0	3	0
Melrose	225	594.7	55	50	11	2	12	15	2	5	1	0	1	1

Table 44. Selected Causes of Death by Community, Massachusetts: 2012

CITY/TOWN	Total Deaths	Age-Adjusted Death Rate ¹	Heart Disease	Total Cancer	Lung Cancer	Breast Cancer ²	Stroke	CLRD ³	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	Opioid-related ⁵
Mendon	33	718.5	9	12	2	1	1	0	0	1	1	0	2	0
Merrimac	51	802.0	10	9	0	0	2	2	1	1	0	0	2	0
Methuen	407	689.9	106	110	32	12	10	19	7	7	6	1	3	0
Middleborough	184	693.1	39	53	16	2	6	12	1	2	2	0	2	4
Middlefield	5	777.1	3	0	0	0	0	0	0	0	1	0	0	1
Middleton	49	537.3	8	17	5	2	5	0	0	0	0	0	0	0
Milford	222	685.4	56	52	10	4	11	9	2	11	0	1	4	5
Millbury	122	728.5	24	27	8	2	8	3	1	1	0	0	0	1
Millis	50	671.5	16	10	2	1	3	3	0	0	0	0	0	0
Millville	9	395.1	0	3	0	0	0	1	1	0	1	0	0	0
Milton	223	576.1	61	46	12	7	18	8	0	3	2	1	2	1
Monroe	1	-- ⁴	1	0	0	0	0	0	0	0	0	0	0	0
Monson	64	739.4	13	21	7	0	5	1	1	2	1	0	0	1
Montague	80	679.9	21	17	5	1	3	6	1	3	0	0	0	0
Monterey	7	587.6	1	3	1	0	2	0	0	0	0	0	0	0
Montgomery	2	-- ⁴	0	1	1	0	1	0	0	0	0	0	0	0
Mount Washington	1	-- ⁴	1	0	0	0	0	0	0	0	0	0	0	0
Nahant	48	778.5	12	9	2	1	2	1	0	2	0	0	2	0
Nantucket	51	488.1	11	10	4	0	0	2	0	0	0	1	2	0
Natick	247	614.6	63	64	19	3	8	11	5	10	0	0	4	1
Needham	231	477.3	64	49	9	5	6	8	2	5	0	0	3	0
New Ashford	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
New Bedford	977	822.6	226	199	64	16	34	36	27	34	8	2	15	25
New Braintree	1	-- ⁴	1	0	0	0	0	0	0	0	0	0	0	0
New Marlborough	9	380.5	5	2	1	0	0	0	0	0	0	0	0	0
New Salem	4	-- ⁴	2	1	0	0	0	1	0	0	0	0	0	0
Newbury	39	578.4	7	16	3	3	1	5	0	1	0	0	0	0
Newburyport	166	681.7	33	45	8	3	10	8	6	6	0	0	4	2
Newton	606	495.8	140	165	36	6	31	12	8	12	2	0	10	5
Norfolk	47	695.1	7	9	2	1	6	2	1	0	0	0	1	1
North Adams	158	807.4	34	32	13	2	6	9	3	7	1	0	3	4
North Andover	237	641.0	50	46	11	2	13	18	6	6	1	0	1	2
North Attleboro	181	694.1	39	47	14	2	10	8	6	2	2	0	1	5
North Brookfield	45	884.8	14	12	1	1	3	2	0	0	0	0	1	2
North Reading	73	481.3	18	20	6	3	4	3	0	2	0	0	0	0
Northampton	268	746.8	41	64	18	4	17	17	1	9	1	0	5	2

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CITY/TOWN	Total Deaths	Age-Adjusted Death Rate ¹	Heart Disease	Total Cancer	Lung Cancer	Breast Cancer ²	Stroke	CLRD ³	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	Opioid-related ⁵
Northborough	98	643.1	14	30	9	0	0	2	3	5	0	0	2	1
Northbridge	157	768.3	45	22	9	0	9	6	6	7	1	0	4	2
Northfield	22	576.1	5	5	0	0	0	1	0	0	1	0	2	0
Norton	152	914.3	36	43	10	3	11	3	3	3	2	0	1	4
Norwell	87	617.5	9	22	0	2	1	6	2	5	0	0	0	1
Norwood	283	626.8	63	70	18	8	16	11	4	4	0	0	4	2
Oak Bluffs	49	670.5	7	12	1	1	2	4	2	0	0	0	1	0
Oakham	16	1,074.4	6	3	0	0	0	2	1	0	1	0	0	0
Orange	99	1,099.9	22	23	6	3	1	13	0	4	1	0	2	2
Orleans	108	577.9	34	21	2	1	9	6	2	4	0	0	2	0
Otis	8	405.7	4	1	0	0	0	0	0	0	1	0	0	0
Oxford	91	698.3	16	24	6	2	1	7	2	4	2	1	4	3
Palmer	150	936.5	35	39	11	0	6	6	3	2	0	0	1	2
Paxton	28	532.9	2	6	1	1	2	0	0	2	0	0	1	1
Peabody	658	687.4	144	153	38	12	38	32	12	15	4	0	4	3
Pelham	4	-- ⁴	1	2	1	0	0	0	0	0	0	0	0	0
Pembroke	115	774.7	20	36	13	6	6	1	5	1	0	0	0	4
Pepperell	54	581.3	8	9	2	0	1	3	0	2	3	0	1	1
Peru	5	551.2	1	2	0	0	0	1	0	1	0	0	0	0
Petersham	11	751.5	4	2	0	0	0	1	0	1	0	0	1	0
Phillipston	11	852.4	1	4	1	0	0	0	1	0	1	0	1	1
Pittsfield	540	811.5	131	113	36	7	19	32	16	4	4	0	6	9
Plainfield	8	1,160.1	2	0	0	0	0	0	0	0	0	0	0	0
Plainville	51	590.8	11	11	4	1	1	2	0	2	1	0	1	2
Plymouth	478	727.9	113	118	30	16	16	18	11	26	4	0	2	6
Plympton	17	671.4	6	4	2	0	0	1	2	0	0	0	2	0
Princeton	23	693.3	6	6	1	0	0	0	1	1	0	0	0	1
Provincetown	44	818.5	6	8	4	0	0	4	2	3	0	0	0	0
Quincy	879	721.5	198	207	54	17	38	36	15	33	10	2	9	23
Randolph	242	658.2	43	49	10	5	12	15	5	11	5	1	1	4
Raynham	141	897.4	30	41	12	3	4	9	6	8	0	0	1	1
Reading	198	626.9	46	58	12	5	9	11	3	4	0	1	3	1
Rehoboth	79	737.2	19	26	6	7	3	2	1	1	1	1	2	0
Revere	432	669.4	95	99	32	5	17	16	12	6	0	2	6	11
Richmond	10	470.9	0	5	1	1	1	0	0	0	0	0	1	0

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CITY/TOWN	Total Deaths	Age-Adjusted Death Rate ¹	Heart Disease	Total Cancer	Lung Cancer	Breast Cancer ²	Stroke	CLRD ³	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	Opioid-related ⁵
Rochester	24	611.9	9	3	0	1	3	1	0	0	0	0	0	0
Rockland	174	864.4	41	49	18	2	10	3	3	3	2	0	3	2
Rockport	85	622.5	22	17	3	3	4	1	1	0	1	0	0	2
Rowe	4	-- ⁴	0	1	0	0	0	1	0	1	0	0	0	0
Rowley	37	665.6	6	7	1	2	2	2	2	0	0	0	2	1
Royalston	10	1,103.0	3	1	1	0	1	1	0	0	0	0	1	0
Russell	7	362.4	1	2	1	0	0	1	0	0	0	0	0	0
Rutland	31	518.7	6	6	1	0	1	2	0	1	1	0	0	1
Salem	320	679.3	66	79	26	10	15	19	6	12	3	0	5	5
Salisbury	68	752.1	18	17	3	0	5	4	1	1	1	0	0	3
Sandisfield	18	1,398.3	1	6	4	0	1	1	0	1	0	0	0	0
Sandwich	142	555.5	13	47	10	3	9	12	1	2	1	0	3	1
Saugus	277	747.0	60	60	15	4	10	10	7	7	0	0	2	9
Savoy	2	-- ⁴	0	1	0	0	0	1	0	0	0	0	0	0
Scituate	143	573.2	34	35	12	3	5	9	4	3	0	0	0	1
Seekonk	89	528.5	18	27	6	2	3	6	0	1	0	0	1	0
Sharon	105	564.5	20	31	8	4	1	6	5	3	0	0	1	2
Sheffield	15	332.5	4	6	2	0	0	0	0	0	1	0	0	0
Shelburne	25	741.1	8	5	2	0	0	1	1	1	1	0	0	0
Sherborn	16	367.0	3	5	0	0	0	0	0	0	0	0	1	0
Shirley	48	762.3	14	10	5	0	1	3	1	0	2	0	1	1
Shrewsbury	238	556.0	56	58	17	6	8	13	3	7	1	1	4	0
Shutesbury	7	511.4	1	2	0	0	0	0	0	0	0	0	1	0
Somerset	221	644.8	55	42	15	2	14	11	5	12	1	0	1	2
Somerville	421	689.9	88	107	29	4	13	26	9	7	2	0	8	4
South Hadley	165	637.0	36	44	5	5	9	9	3	3	1	0	2	1
Southampton	36	655.6	6	12	2	1	1	1	0	0	0	1	0	0
Southborough	53	614.9	7	17	5	1	1	3	1	2	0	0	0	0
Southbridge	149	717.2	30	28	8	0	2	12	5	2	2	2	0	2
Southwick	75	628.2	20	12	2	0	3	3	0	0	1	0	1	1
Spencer	121	907.4	26	24	8	0	7	8	0	3	0	2	2	0
Springfield	1,173	802.8	258	260	80	19	56	47	34	26	7	11	22	26
Sterling	57	588.3	6	13	4	1	3	3	5	1	0	0	0	1
Stockbridge	18	512.6	2	3	0	0	3	1	0	1	0	0	0	0
Stoneham	207	594.0	38	58	14	4	7	9	4	4	0	0	2	2
Stoughton	270	743.6	58	73	16	4	15	9	6	4	2	0	3	5

Table 44. Selected Causes of Death by Community, Massachusetts: 2012

CITY/TOWN	Total Deaths	Age-Adjusted Death Rate ¹	Heart Disease	Total Cancer	Lung Cancer	Breast Cancer ²	Stroke	CLRD ³	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	Opioid-related ⁵
Stow	26	408.4	4	6	2	0	1	2	0	0	1	0	1	0
Sturbridge	84	769.1	16	30	9	3	3	6	1	2	0	0	0	0
Sudbury	112	632.0	28	25	6	3	2	7	1	4	1	0	2	1
Sunderland	24	689.6	4	6	1	0	1	2	0	0	0	0	1	0
Sutton	43	558.5	10	12	4	2	3	3	0	0	3	0	2	0
Swampscott	123	509.3	35	27	7	3	4	4	0	4	0	0	0	0
Swansea	136	614.3	23	40	9	1	5	6	0	2	1	1	1	4
Taunton	489	761.5	102	103	35	5	31	27	9	12	10	0	3	14
Templeton	57	628.1	12	15	6	0	2	3	2	0	0	0	1	1
Tewksbury	233	682.1	38	72	24	4	7	11	4	3	1	0	3	2
Tisbury	31	543.3	7	10	4	0	2	3	0	0	0	0	0	0
Tolland	4	-- ⁴	0	0	0	0	0	0	0	0	1	0	0	0
Topsfield	64	718.4	14	17	3	2	4	1	0	0	0	0	0	1
Townsend	48	680.2	10	16	5	3	3	2	0	2	1	0	1	1
Truro	23	736.3	1	10	2	0	1	2	0	1	0	0	1	0
Tyngsborough	69	782.4	12	24	5	4	1	2	2	1	1	0	1	2
Tyringham	2	-- ⁴	0	1	1	0	0	0	0	0	0	0	0	0
Upton	36	625.7	7	10	5	0	3	1	2	0	0	0	0	1
Uxbridge	116	848.5	20	35	11	3	7	3	2	3	1	1	2	3
Wakefield	221	682.3	43	47	15	2	11	15	3	6	0	0	3	1
Wales	13	743.3	2	5	1	0	0	1	1	0	0	0	0	0
Walpole	194	612.5	44	44	11	5	2	9	4	5	2	0	2	1
Waltham	372	578.4	88	80	22	6	18	13	10	9	1	0	7	4
Ware	99	804.4	21	27	9	2	4	1	2	3	1	0	0	3
Wareham	223	769.1	51	61	19	2	7	5	7	4	3	1	3	2
Warren	43	831.2	11	10	4	1	0	3	2	0	0	0	0	0
Warwick	4	-- ⁴	0	1	0	0	0	1	0	0	0	0	0	0
Washington	1	-- ⁴	0	1	1	0	0	0	0	0	0	0	0	0
Watertown	245	590.3	56	64	16	5	15	14	3	3	0	0	1	1
Wayland	102	555.3	24	19	4	2	8	8	0	2	2	0	0	1
Webster	206	830.4	38	55	15	1	16	7	8	8	0	0	4	5
Wellesley	148	446.0	29	34	6	7	7	3	1	1	1	0	0	0
Wellfleet	46	934.5	10	16	2	2	3	0	1	2	0	0	2	0
Wendell	7	1,003.1	2	3	3	0	0	1	0	0	0	0	0	0
Wenham	34	649.7	5	11	3	2	2	2	0	3	0	0	0	0
West Boylston	105	837.3	20	20	7	0	6	5	0	6	0	0	1	1

Table 44. Selected Causes of Death by Community, Massachusetts: 2012

CITY/TOWN	Total Deaths	Age-Adjusted Death Rate ¹	Heart Disease	Total Cancer	Lung Cancer	Breast Cancer ²	Stroke	CLRD ³	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	Opioid-related ⁵
West Bridgewater	76	722.7	21	21	6	1	4	3	2	2	0	0	1	3
West Brookfield	55	901.7	11	11	2	1	6	5	1	0	2	0	0	0
West Newbury	9	242.1	2	1	0	0	1	0	1	0	0	0	0	0
West Springfield	247	670.6	56	55	16	3	15	10	8	2	3	0	5	1
West Stockbridge	7	350.3	2	3	0	1	1	0	0	0	0	0	0	0
West Tisbury	15	518.2	7	1	0	0	0	0	0	0	1	0	0	0
Westborough	153	669.1	42	30	6	0	3	11	3	5	0	0	0	0
Westfield	377	760.6	87	93	20	6	13	25	8	9	2	0	5	4
Westford	121	796.7	27	29	7	1	10	6	2	3	2	0	1	0
Westhampton	3	-- ⁴	1	2	1	0	0	0	0	0	0	0	0	0
Westminster	54	790.3	13	13	4	0	2	5	0	4	1	0	1	0
Weston	102	516.2	27	23	5	2	4	5	0	2	0	0	1	1
Westport	141	663.6	21	39	9	3	5	5	5	5	1	1	1	2
Westwood	128	479.0	26	31	5	3	5	8	1	2	0	0	2	0
Weymouth	505	745.0	120	130	36	10	19	25	8	14	3	0	8	11
Whately	14	655.7	3	4	1	0	2	0	0	1	0	0	0	0
Whitman	88	716.4	16	24	8	4	0	6	2	5	2	0	3	4
Wilbraham	152	629.0	36	37	9	2	7	8	1	4	1	1	0	1
Williamsburg	30	867.1	5	6	1	0	0	1	1	1	0	1	0	0
Williamstown	83	543.5	21	15	3	3	5	3	4	4	1	0	1	0
Wilmington	165	662.8	24	44	16	5	10	5	1	8	0	0	5	2
Winchendon	82	827.5	22	19	6	0	6	8	0	1	1	0	1	2
Winchester	173	516.6	30	52	10	3	13	9	4	7	0	0	2	0
Windsor	4	-- ⁴	2	1	1	0	1	0	0	0	0	0	0	0
Winthrop	176	737.2	33	50	20	3	6	6	2	4	0	0	0	7
Woburn	340	648.1	76	98	17	1	10	15	5	9	1	0	1	6
Worcester	1,661	859.2	344	348	92	16	66	93	31	41	8	9	20	25
Worthington	3	-- ⁴	0	2	1	0	0	1	0	0	0	0	0	0
Wrentham	106	767.7	20	16	2	1	9	4	3	3	0	0	0	1
Yarmouth	360	648.2	95	79	15	7	17	30	2	9	3	0	1	3

1. Rates are per 100,000 population age-adjusted to the 2000 US Standard Population. Data presented in this table are classified according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 2. Includes only female breast cancer. 3. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title). 4. Rates based on 1-4 deaths are not calculated. 5. The term opioid designates a class of drugs derived naturally from the opium poppy (opium, morphine, codeine), synthesized or derived from a natural opiate (heroin, oxycodone, hydrocodone), or manufactured synthetically with a chemical structure similar to opium (fentanyl, methadone). (Opioid Overdose Response Strategies in Massachusetts, MDPH, 2014). This report combines all opioid overdoses since classification of specific drugs can be difficult. For example, many deaths related to heroin cannot be specifically coded as such due to the fast metabolism of heroin into morphine, as well as, the possible interaction of multiple drugs.

Table 45. Selected Causes of Death by Community Health Network Area (CHNA), Massachusetts: 2012

CHNA Name	Total Deaths	Age-Adjusted Death Rate ¹	Heart Disease	Total Cancer	Lung Cancer	Female Breast Cancer ²	Stroke	CLRD ³	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	Opioid-related ⁴
Massachusetts	53,169	669.2	11,586	12,850	3,455	858	2,361	2,519	1,098	1,356	368	140	616	711
1. Community Health Network of Berkshire	1,444	700.2	333	300	94	20	68	84	31	28	11	0	16	17
2. Upper Valley Health Web (Franklin County)	809	704.5	188	180	48	11	30	66	13	26	4	0	15	11
3. Partnership for Health in Hampshire County (Northampton)	1,150	659.7	228	314	68	27	63	55	16	33	9	3	10	11
4. The Community Health Connection (Springfield)	2,653	738.2	589	613	172	39	127	112	61	56	19	13	37	39
5. Community Health Network of Southern Worcester County	1,049	744.4	209	256	72	12	46	69	33	28	8	6	14	14
6. Community Partners for Health (Milford)	1,152	701.4	262	289	77	18	55	49	27	40	11	2	27	17
7. Community Health Network of Greater Metro West (Framingham)	2,665	613.4	595	649	161	37	105	137	53	74	18	2	30	24
8. Common Pathways (Worcester)	2,641	746.2	558	575	158	31	107	135	43	71	10	10	33	29
9. Community Health Network of North Central Massachusetts	2,104	750.5	495	485	137	29	122	110	53	55	25	3	33	27
10. Greater Lowell Community Health Network	2,061	761.9	422	525	160	30	83	90	39	52	14	4	28	18
11. Greater Lawrence Community Health Network	1,311	643.7	297	298	76	28	51	71	31	23	13	1	9	9
12. Greater Haverhill Community Health Network	1,189	708.4	293	300	69	28	54	50	22	26	7	1	18	20
13. Community Health Network North (Beverly/Gloucester)	1,071	665.1	230	262	77	16	47	48	20	22	10	0	9	16
14. North Shore Community Health Network	2,678	699.7	560	632	170	46	117	130	49	68	14	5	22	47
15. Northwest Suburban Health Alliance	1,750	581.5	339	433	89	26	77	77	29	49	5	1	19	17
16. North Suburban Health Alliance (Medford/Malden/Melrose)	2,125	639.8	433	526	148	31	91	107	39	55	9	3	18	35
17. Greater Cambridge/Somerville Community Health Network	1,680	595.2	340	419	106	31	69	76	36	32	5	1	25	15
18. West Suburban Health Network (Newton/Waltham)	1,927	532.1	472	455	105	32	90	63	25	33	4	1	24	12
19. Alliance for Community Health (Boston/Chelsea/Revere/Winthrop)	4,894	680.0	928	1,294	339	72	230	162	130	108	33	56	46	87
20. Blue Hills Community Health Alliance (Greater Quincy)	3,424	663.5	755	803	212	75	145	168	66	107	26	4	34	52
21. Community Health Network of Chicopee, Holyoke, Ludlow, Westfield	1,610	763.0	363	381	93	27	67	89	36	45	9	5	14	19
22. Greater Brockton Community Health Network	1,854	745.5	434	458	137	28	80	102	42	54	12	6	24	28
23. South Shore Community Health Network	1,564	738.9	350	389	125	34	66	65	40	60	14	0	21	26
24. Greater Attleboro-Taunton Health & Education Response	1,933	721.7	427	491	146	32	91	102	34	50	23	2	21	34
25. Partners for Healthier Communities	1,482	760.8	331	327	92	18	69	66	32	41	19	4	9	31
26. Greater New Bedford Community Health Network	2,001	744.4	477	482	147	32	67	65	44	55	17	5	24	33
27. Cape Cod and Islands Health Network	2,944	653.9	677	714	177	48	142	172	54	65	19	2	36	23

1. Rates are per 100,000 population age-adjusted to the 2000 US Standard Population. Data presented in this table are classified according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 2. Includes only female breast cancer. 3. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title). 4. The term opioid designates a class of drugs derived naturally from the opium poppy (opium, morphine, codeine), synthesized or derived from a natural opiate (heroin, oxycodone, hydrocodone), or manufactured synthetically with a chemical structure similar to opium (fentanyl, methadone). (Opioid Overdose Response Strategies in Massachusetts, MDPH, 2014). This report combines all opioid overdoses since classification of specific drugs can be difficult. For example, many deaths related to heroin cannot be specifically coded as such due to the fast metabolism of heroin into morphine, as well as, the possible interaction of multiple drugs.

Table 46. Selected Causes of Death by County, Massachusetts: 2012

County	Total Deaths	Age-Adjusted Death Rate ¹	Heart Disease	Total Cancer	Lung Cancer	Female Breast Cancer ²	Stroke	CLRD ³	Diabetes	Influenza & Pneumonia	Motor Vehicle	Homicide	Suicide	Opioids-related ⁴
Massachusetts	53,169	669.2	11,586	12,850	3,455	858	2,361	2,519	1,098	1,356	368	140	616	711
Barnstable	2,748	655.2	638	666	165	47	133	162	52	64	17	1	29	23
Berkshire	1,444	696.2	333	300	94	20	68	84	31	28	11	0	16	17
Bristol	4,965	731.1	1,129	1,161	333	79	216	212	101	145	53	9	48	93
Dukes	145	641.4	28	38	8	1	9	8	2	1	2	0	5	0
Essex	6,249	667.6	1,380	1,492	392	118	269	299	122	139	44	7	58	92
Franklin	667	696.4	158	146	38	9	24	55	9	22	3	0	10	8
Hampden	4,276	736.4	956	996	267	66	192	202	99	102	28	17	50	58
Hampshire	1,169	658.6	232	321	69	27	65	55	16	33	9	4	11	11
Middlesex	10,768	612.7	2,264	2,685	695	159	455	497	200	266	59	12	135	116
Nantucket	51	465.6	11	10	4	0	0	2	0	0	0	1	2	0
Norfolk	5,466	626.2	1,200	1,317	338	122	241	241	96	145	38	5	66	67
Plymouth	3,950	684.8	912	1,002	315	67	152	197	89	122	30	8	46	56
Suffolk	4,599	688.2	879	1,193	308	62	218	158	126	102	32	56	43	87
Worcester	6,668	728.3	1,465	1,523	429	81	317	348	155	187	42	20	97	83

Please note that 2011 population estimates are used for county rates.

1. Rates are per 100,000 population age-adjusted to the 2000 US Standard Population. Data presented in this table are classified according to ICD-10. Please see Appendix for a list of ICD-10 codes used in this table. 2. Includes only female breast cancer. 3. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title). 4. The term opioid designates a class of drugs derived naturally from the opium poppy (opium, morphine, codeine), synthesized or derived from a natural opiate (heroin, oxycodone, hydrocodone), or manufactured synthetically with a chemical structure similar to opium (fentanyl, methadone). (Opioid Overdose Response Strategies in Massachusetts, MDPH, 2014). This report combines all opioid overdoses since classification of specific drugs can be difficult. For example, many deaths related to heroin cannot be specifically coded as such due to the fast metabolism of heroin into morphine, as well as, the possible interaction of multiple drugs.

TECHNICAL NOTES

Since our 1999 publication, the *Advance Data: Deaths* series has been renamed *Massachusetts Deaths*.

NOTE

Please note that death statistics are presented as both *numbers* (or percentages, proportions) and *rates*. *Numbers* are, the basic, raw counts of deaths, while *rates* are population-based statistics, for example, *the number of deaths per 100,000*.

DATA SOURCES

Data for this document are derived from Massachusetts death certificates, Massachusetts birth certificates, the US Census, the Massachusetts Institute for Social and Economic Research (MISER) (population data pre-2000), and the National Center for Health Statistics (NCHS).

CHANGES TO MORTALITY DATA, EFFECTIVE 1999

Beginning with data year 1999, two major changes in Federal classification and tabulation procedures occurred that affects the tabulation and analyses of mortality data over time. First, a new revision for classifying causes of death was implemented: The International Classification of Diseases, Tenth Revision (ICD-10) replaced the International Classification of Diseases, Ninth Revision (ICD-9) for coding all mortality data. Second, a new standard population for the tabulation of age-adjusted mortality rates was also implemented.

CHANGES TO THE PRESENTATION OF RACE AND ETHNICITY DATA

In response to readers' feedback, the presentation of race and ethnicity data has been changed. Previously, race and ethnicity data were presented according to Federal definitions of race and ethnicity; that is, persons of Hispanic ethnicity can be of any race group. Beginning with the 1999 report, race and ethnicity data are presented as mutually exclusive categories, that is, persons of Hispanic ethnicity are not included in a race group. All race and ethnicity data presented in trend tables have been updated to reflect this change. Thus, race and ethnicity data tables include the categories White non-Hispanic; Black non-Hispanic; Asian; and Hispanic. Furthermore, starting with the 2001 publication, there has been a nomenclature change in the way data for Asians are presented: the Asian/Pacific Islander non-Hispanics category was renamed Asians, which includes Pacific Islanders.

CAPE VERDEANS

The US Federal Census and the National Center for Health Statistics (NCHS) places persons who are Cape Verdean in the race category "Black". Historically, we have followed this federal definition in order to be consistent with NCHS. Beginning with 1999 data, we have separated the concept of "Race" from "Ethnic Group" for reporting death statistics. This enables us to place Cape Verdeans where they self-identify: Cape Verdeans are classified as "Cape Verdeans" in ethnicity tables. With respect to race, 70% of Cape Verdeans classified their race as "Other" while only 24% classified themselves as Black and 6% as White in 1999. We have no Cape Verdean population counts or estimates with which to calculate rates at the state or lower geographic levels. Although we can identify Cape Verdeans in the count of deaths (numerator), because we have no count or estimate of the number of Cape Verdeans in the Massachusetts population (denominator), we are unable to calculate death rates. Beginning with the 2000 report, we have included a detailed table and figure summarizing age and cause of deaths among Cape Verdeans.

POPULATION ESTIMATES

Since the year 2010 is one in which the Census Bureau conducted a decennial count of the population, we were able to use the Census Bureau counts for 2010 as the denominators for state rates, e.g., birth rate, teen birth rate, age-specific birth rates, and the crude birth rate.

The Massachusetts Department of Public Health Race Allocated Census 2010 Estimates (MRACE 2010), which are population estimates based upon the Census 2010 Summary File 1, was used to calculate city and town rates. In this estimates file, the Census 2010 race categories, “Two or more races” and “Some other race” are redistributed to the MDPH standard race categories: Non-Hispanic White, Non-Hispanic Black, Non-Hispanic Asian and Pacific Islander, and Non-Hispanic American Indian and Alaska Native. All persons in the Census 2010 Hispanic ethnicity category are counted as “Hispanic” race in the MDPH estimates. This kind of file is often referred to as a “bridged” file, that is, one that bridges the new race and ethnicity collections to the conventionally used categories. These population estimates are available from MassCHIP (<http://masschip.state.ma.us>).

When state rates were calculated by race and Hispanic ethnicity, e.g., age adjusted death rates; we used the 2010-bridged population file, MARS (Modified Age, Race/Ethnicity, and Sex) file, which is produced by the National Center for Health Statistics (NCHS) and the Census Bureau Population Estimates Program. This file has data by single year or age, sex, race and Hispanic ethnicity in the five mutually exclusive categories used by the Department: White Non-Hispanic, Black Non-Hispanic, Asian Non-Hispanic, and American Indian/Alaska Native Non-Hispanic.

LIMITATIONS OF SMALL NUMBERS

Cells in some tables contain small numbers. Rates and proportions based on fewer than five observations are suppressed, and trends based upon small numbers should be interpreted cautiously.

APPLYING COMPARABILITY RATIOS TO EXAMINE TRENDS IN MORTALITY

Beginning with 1999, mortality data are coded according to the International Classification of Diseases-10th revision (ICD-10). Due to the changes in coding rules, comparison of mortality trends over time using different revisions of ICD is challenging. A method was devised to assess if changes in causes of death are “real” changes, or due to the new classification system. Using this method, death data for 1996 were coded twice; once according to ICD-9 and again according to ICD-10. A comparability ratio (CR) was then calculated by dividing the number of deaths coded according to ICD-10 by the number of deaths coded according to the most similar codes in ICD-9 (please refer to Tables A4 and A5. Preliminary Comparability Ratios for a list of codes and CR used in this publication).

A CR of 1.00 indicates that the same number of deaths was assigned to a cause of death whether ICD-9 or ICD-10 was used. A CR of less than 1.00 results from 1) a decrease in the number of deaths assigned to a cause in ICD-10 compared with ICD-9 or 2) the cause described in ICD-10 is only a part of the ICD-9 title to which it is being compared. A CR of more than 1.00 results from 1) an increase in the assignments of deaths to a cause in ICD-10 compared with ICD-9 or 2) the ICD-10 title is broader than the ICD-9 title to which it is being compared.

EXAMPLE: Influenza and Pneumonia¹ Deaths: Massachusetts, 1996-2000

Year	Age-adjusted rate ²	Comparability Ratio	Comparability Modified Rate (=age-adjusted rate* Comparability Ratio)
1996	41.5	0.6982	29.0
1997	39.1	0.6982	27.3
1998	40.2	0.6982	28.1
1999	30.3		
2000	29.3		

1. Influenza and pneumonia defined as ICD-9: 480-487 for years 1996-1998 and ICD-10: J10-J18 for year 1999 and 2000.
2. Age-adjusted to the 2000 US standard population, per 100,000.

If you look only at the age-adjusted rate over time, not taking the ICD coding changes into account, it appears that deaths from influenza and pneumonia have decreased between 1996-1999. However, because the coding rules changed between ICD-9 and ICD-10 revisions, we need to apply the comparability ratio to the rates for 1996-1998. (This is done by multiplying the age-adjusted rate by the comparability ratio.) Now we can make a fairer comparison and examine the changes between the comparability modified rate and the 1999 or 2000 rate. We see that deaths to influenza and pneumonia have remained constant between 1996-2000, and have actually increased between 1998 and 1999 (28.1 to 30.3 per 100,000, respectively) after taking the changes in the classification system into account.

PLEASE NOTE: the comparability ratios used in this report are based on the Preliminary Comparability Study conducted by the National Center for Health Statistics (NCHS), February 2001, and are subject to change once the Final Comparability Study is completed.

TESTS OF STATISTICAL SIGNIFICANCE

Beginning with *Massachusetts Deaths 2004*, statistics presented in the text section have been tested to determine whether they differ significantly from a target statistic. For example, the number of deaths in 2008 was compared with the number of deaths in 2007 to determine whether their difference was unlikely to have occurred by chance. When a difference is unlikely to have occurred by chance, it is referred to as “significant.”

Note that with respect to statistical difference, the language of this year’s report differs from the language of reports prior to 2004, and caution must be used when comparing the text of previous reports with this year’s report.

In testing for statistical significance, we have used the testing methods from the National Center for Health Statistics (NCHS). These methods are presented in the following document:

National Vital Statistics Reports, Volume 52, Number 10

Births: Final Data for 2002

by Joyce A. Martin, M.P.H.; Brady E. Hamilton, Ph.D.; Paul D. Sutton, Ph.D.; Stephanie J. Ventura, M.A.; Fay Menacker, Dr. P.H.; and Martha L. Munson, M.S.;

From the Division of Vital Statistics, NCHS. (Technical Notes, “Significance testing” section begins on page 110).

This document is available from the following website:

<http://www.cdc.gov/nchs/products/pubs/pubd/nvsr/52/52-23.htm>

For comparisons of more than 100 events, whether they are rates, proportions, or numbers, the binomial distribution is assumed, and confidence intervals are examined to see whether they overlap (Refer to the “Confidence Intervals” section in the next page for an explanation of using confidence intervals to determine statistical significance). When the number of events is less than 100, a Poisson distribution is assumed, and confidence intervals are constructed based upon the Poisson distribution. For more details and exact formulas for calculating confidence intervals or other tests of statistical significance, refer to the publication listed above.

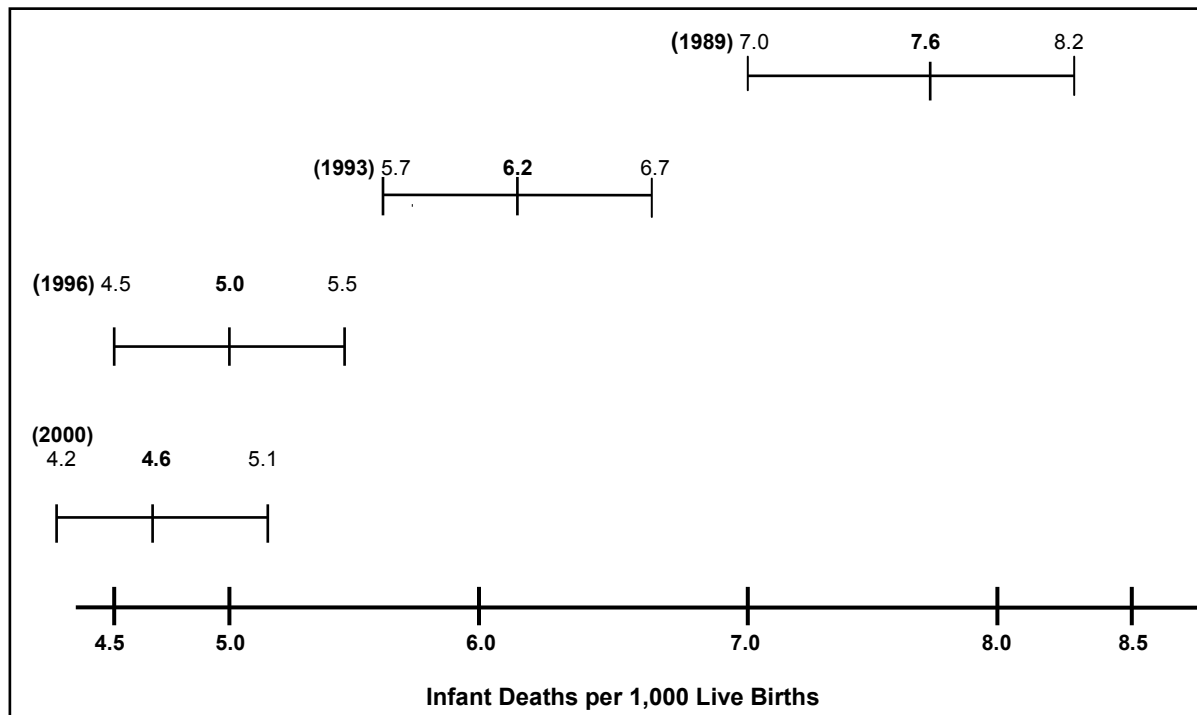
When two statistics are determined to differ significantly, they are referred to in the text with language expressing differences, such as, “higher” and “lower”, or “increased” and “decreased”. Otherwise, differences that are not significant are reported as having “no change” or “no statistical difference.”

CONFIDENCE INTERVALS AND INFANT MORTALITY RATES

The confidence interval (CI) provides a measure of stability of the infant mortality rates (IMR) and a basis for comparing rates to determine if they are statistically different. Rates can be compared for the same group in different years or for different groups in the same year. The width of the CI reflects the stability of the IMR. For example, a narrow CI reflects high stability, and a wide CI reflects low stability. If the CIs around two IMRs being compared do not overlap, the difference between the two rates is statistically significant. The following table and chart illustrate the concept of statistically significant differences using actual data from 1989, 1993, 1996, and 2000.

Comparison of Infant Mortality Rates and Confidence Intervals for Selected Years

Year	IMR (per 1,000 births)	95% Confidence Interval
1989	7.6	(7.0-8.2)
1993	6.2	(5.7-6.7)
1996	5.0	(4.5-5.5)
2000	4.6	(4.2-5.1)



The difference between the 1993 IMR and 1996 IMR is statistically significant – the confidence intervals do not overlap. The same is true for the differences between the 1989 IMR and each annual IMR for 1993, 1996, and 2000. However, the difference between the 1996 and 2000 IMRs is not statistically significant, since their confidence intervals overlap.

GLOSSARY

Age-Adjusted Rate

A summary rate designed to minimize the distortions created by differences in age distribution when comparing rates for populations with different age compositions. Age-adjusted rates are useful when comparing death rates from different populations or in the same population over time. For example, if one wished to compare the 1998 death rates between Barnstable County (Cape Cod) and Hampshire County, the age-adjusted formula would account for the fact that 24% of the Barnstable County residents were 65 years of age or older, whereas only 11% of the Hampshire County residents were in this age group.

Age-adjusted rates are calculated by weighting the age-specific rates for a given year by the age distribution of a standard population. The weighted age-specific rates are then added to produce the adjusted rate for all ages combined. (Please see example below).

The 2000 US projected population is used as the standard population in this document for consistency with data published by the National Center for Health Statistics (NCHS). **ONLY RATES USING THE SAME STANDARD POPULATION CAN BE COMPARED.** All age-adjusted rates published in this report have been re-calculated using the 2000 US standard population. These rates should NOT be compared with age-adjusted rates previously published that used the 1940 US standard population.

Example: Calculation of 1999 Age-Adjusted Mortality Rate Massachusetts: All Causes of Death

A	B	C	D	E	F	G
Age group (in years)	# of deaths (1999)	Population (1998)	1940 US standard	2000 US standard	Age-adjusted rate (using 1940 standard) = $[(B/C)*D]*100,000$	Age-adjusted rate (using 2000 standard) = $[(B/C)*E]*100,000$
< 1	418	79,860	0.015343	0.013818	8.0	7.2
1 ⁻⁴	65	320,000	0.064718	0.055317	1.3	1.1
5-14	100	806,670	0.170355	0.145565	2.1	1.8
15-24	407	883,830	0.181677	0.138646	8.4	6.4
25-34	701	1,005,337	0.162066	0.135573	11.3	9.5
35 ⁻⁴	1,696	1,019,365	0.139237	0.162613	23.2	27.1
45-54	2,870	818,660	0.117811	0.134834	41.3	47.3
55-64	4,561	495,555	0.080294	0.087247	73.9	80.3
65-74	9,782	442,003	0.048426	0.066037	107.2	146.1
75-84	17,397	299,482	0.017303	0.044842	100.5	260.5
85+	17,765	120,501	0.002770	0.015508	40.8	228.6
Total					418.0	815.9

Age-Specific Rate

A rate for a specified age group. Age-specific death rates are calculated by dividing the number of deaths for a specific age group by its population for that year. The numerator and denominator refer to the same age group.

$$\text{Age-specific death rate (ages 25-34)} = \frac{\text{Number of deaths among residents ages 25-34 in a given year}}{\text{population ages 25-34 in that year}} \times 100,000$$

Community Health Network Areas (CHNA)

The Department of Public Health, in collaboration with health service providers, coalition members, and interested citizens, has designated 27 areas for community health planning. It is the Department's intention to foster in each of these areas the development of Community Health Networks – consortia of health care providers, human service agencies, schools, churches, youth, parents, elders, advocacy groups, and individual consumers -- to address the health needs of the community. The Community Health Network Area (CHNA) mobilize around key health issues impacting the community, promote prevention efforts, enhance access to care, provide opportunities for more collaboration among agencies, and create a client-centered, outcome-oriented health service delivery system. CHNAs also promote efficiency in service delivery by working to reduce duplication and overlap, and by identifying gaps in service. These community coalitions participate in monitoring outcomes and progress of strategies and responses to those health needs. To determine which cities and towns make up a particular CHNA, please see Table A8, which provides the CHNA code for each city and town based on the geographic definitions established in 1997.

Comparability Modified Rate

A rate designed to assist in the analysis of mortality trends between revisions of the International Classification of Diseases (ICD). A comparability modified rate is calculated by multiplying the cause-specific comparability ratio by the cause-specific rate for years 1994-1998. Comparability modified rates should be used to compare trends between causes of death in 1994-1998 with causes of death in 1999 forward.

Comparability Ratio (CR)

A factor used to adjust mortality statistics for causes of death classified in ICD-9 to be comparable with mortality statistics classified in ICD-10. It is calculated by dividing the number of deaths for a selected cause of death classified by the new revision (i.e. ICD-10) by the number of deaths for a selected cause of death classified by the old revision (i.e. ICD-9).

More specifically, the CRs used in this report were calculated by the National Center for Health Statistics (NCHS) based on a national sample of death records. Death records for 1996 were double coded, once according to ICD-9 and again according to ICD-10. Secondly, the leading causes of death were grouped according to ICD-10 titles, using the ICD-10 codes for data coded in ICD-10, and the most similar ICD-9 titles for data coded in ICD-9. Finally, the number of deaths coded in ICD-10 were divided by the number of deaths in ICD-9 to produce a CR for the cause of death.

A CR of 1.00 indicates that the same number of deaths was assigned to a cause of death whether ICD-9 or ICD-10 was used.

A CR of less than 1.00 results from 1) a decrease in the number of deaths assigned to a cause in ICD-10 compared with ICD-9 or 2) the cause described in ICD-10 is only a part of the ICD-9 title to which it is being compared.

A CR of more than 1.00 results from 1) an increase in the assignments of deaths to a cause in ICD-10 compared with ICD-9 or 2) the ICD-10 title is broader than the ICD-9 title to which it is being compared.

Preliminary comparability ratios supplied by the National Center for Health Statistics (NCHS) in February 2001 are used in this report (see Table A5 and A6).

See also, comparability modified rate.

Crude Death Rate

An estimate of the proportion of a population that died during the year. The numerator is the number of persons who died during the year and the denominator is the size of the population. The death rate in a population is calculated by the formula:

$$\text{Crude death rate} = \frac{\text{Number of resident deaths in a year}}{\text{Number of residents}} \times 100,000$$

Death Certificate

A vital record signed by a licensed physician that includes cause of death, decedent's name, gender, birth date, place of residence, and place of occurrence. (A copy of the Massachusetts death certificate used in 2012 is in the Appendix). In a properly completed death certificate, the immediate cause of death is recorded on line 29a. The other mentioned causes are written on lines 29 b-d. The underlying cause of death is the disease or injury that initiated the events leading to the death. All causes of death are data entered and processed by a software program supplied by NCHS. This software assigns the appropriate ICD-10 codes. Trained nosologists review the ICD-10 codes assigned.

International Classification of Diseases, Ninth Revision (ICD-9)

The International Classification of Diseases (ICD) classifies mortality information for statistical purposes. The ICD was first used in 1900 and has since been revised about every 10 years, with the exception of the ICD-9, which was in use between 1979-1998.

Because of coding changes between the Ninth and Tenth revision, caution should be used when comparing data coded under ICD-9 and ICD-10.

International Classification of Diseases, Tenth Revision (ICD-10)

The tenth revision of the International Classification of Diseases was used to code mortality data beginning in 1999. For a list of ICD-10 codes used in the publication, please see Tables A1-A4.

Because of coding changes between the Ninth and Tenth revision, caution should be used when comparing data coded under ICD-9 and ICD-10.

Life expectancy at birth

Life expectancy at birth is based on the expected age at death for a newborn infant, based upon the actual experience of mortality of the population in Massachusetts.

NCHS

National Center for Health Statistics (US Department of Health and Human Services, Centers for Disease Control and Prevention).

Occurrence Death

Occurrence deaths include all deaths that occur within the state, including deaths of nonresidents. An interstate exchange agreement among the 50 states, Washington, DC, Canada, the US Virgin Islands, and Guam provides for exchanges of copies of birth and death records. These out-of-state records are used for statistical purposes only and allow each state or province to track the births and deaths of residents.

Opioid definition

The term opioid designates a class of drugs derived naturally from the opium poppy (opium, morphine, codeine), synthesized or derived from a natural opiate (heroin, oxycodone, hydrocodone), or manufactured synthetically with a chemical structure similar to opium (fentanyl, methadone). (Opioid Overdose Response Strategies in Massachusetts, MDPH, 2014)

This report combines all opioid overdoses since classification of specific drugs can be difficult. For example, many deaths related to heroin cannot be specifically coded as such due to the fast metabolism of heroin into morphine, as well as, the possible interaction of multiple drugs.

Other and unspecified narcotics (T40.6)

The ISW7 Consensus Recommendations for national and state poisoning surveillance (Safe States Alliance, 2012) states that this category is intended for other and unspecified drugs classified pharmacologically as narcotics (opioids/opiates). However, in practice it may also be used for drugs classified legally as narcotics such as cocaine. The proportion of this category made up by opioids/opiates varies by jurisdiction, so inclusion of this code depends on more detailed analysis of death certificate text and/or medical examiner records. Reviews in Massachusetts indicate that most deaths classified as T40.6 were opioid-related overdose deaths. For that reason, we include T40.6 in our opioid-related definition.

Potential Years of Life Lost (PYLL)

Total potential years of life lost (PYLL) is calculated by multiplying the number of deaths for each group by the years of life lost (the difference between life expectancy and the midpoint of the age group, then adding the figures for all age groups).

A measure of the impact of death from various diseases on society, highlighting the total loss to society, especially the loss contributed by early deaths. For the purpose of calculating PYLL, since *Massachusetts Deaths 2002*, we have adjusted the maximum age to be 75 years so that we do not include deaths beyond average life expectancy. Data after 2002 are not comparable with previous publications because we used a different maximum age cutoff.

Premature Mortality Rate

Premature mortality rate (PMR) measures the rate of premature death, that is, death before the age of 75 years, and it is given as a rate per 100,000 and it is adjusted to the 2000 US population. PMR is considered the best single measure to reflect the health status of a population.

Race and Hispanic Ethnicity

For death records, race and Hispanic ethnicity are specified by the death record informant (for example, spouse or next of kin). Prior to 1989, death certificates included a question on race, but a separate question on Hispanic origin was added to the death record beginning on January 1, 1989.

Beginning with the 1999 report, race and ethnicity categories are presented as mutually exclusive categories. All trend data from 1989-2003 presented in this report have been re-tabulated to reflect this modification. Data presented by race in this report are not directly comparable to previously published data by race.

Resident Death

The death of a person whose usual place of residence or permanent address (as reported by the informant) is in one of the 351 cities or towns of Massachusetts, regardless of where the death took place. Unless otherwise noted, all data in this publication are resident data. An interstate exchange agreement among the 50 states, Washington, DC, Canada, the US Virgin Islands, and Guam provides for exchange of copies of birth and death records. These records are used for statistical purposes only and allow each state or province to track the births and deaths of residents.

Total Rate of Change

The total rate of change is calculated as follows:

$$\frac{P_n - P_o}{P_o}$$

where P_n is the rate during the later time period and P_o is the rate during the earlier time period.

Underlying Cause of Death

The disease or injury that initiated the series of events leading to death, or the circumstances of the unintentional or intentional injury that resulted in the death. The underlying cause of death is used for all analyses published in this report except for diabetes mortality.

Table A1. ICD-10 and ICD-9 Codes Used in this Publication

(Sorted by ICD-10 Codes)

Cause of Death	ICD-10 Code	ICD-9 Code
Infectious and parasitic diseases	A00-B99	001-139
Septicemia	A40-A41	038
Human Immunodeficiency Virus (HIV) disease	B20-B24	042-044
Cancer (Malignant Neoplasms)	C00-C97	140-208
of esophagus	C15	150
of stomach	C16	151
of colon, rectum, rectum and anus	C18-C21	153-154, 159.9
of pancreas	C25	157
of trachea, bronchus and lung	C33-C34	162
of female breast	C50	174
of cervix uteri	C53	180
of corpus uteri and uterus, part unspecified	C54-C55	179,182
of ovary	C56	183.0
of prostate	C61	185
of kidney and renal pelvis	C64-C65	189.0-189.1
of bladder	C67	188
of meninges, brain & other parts of central nervous system	C70-C72	191-192
Hodgkin Disease	C81	201
Non-Hodgkin lymphoma	C82-C85	200, 202 (except 202.4)
Leukemia	C91-C95	202.4, 204-208
Multiple myeloma and immunoproliferative neoplasms	C88, C90	203
Diabetes Mellitus	E10-E14	250
Alzheimer's disease	G30	331.0
Heart Disease	I00-I09, I11, I13, I20-I51	390-398, 402, 404 ⁻⁴ 29
Stroke (Cerebrovascular disease)	I60-I69	430 ⁻⁴ 38
Influenza and pneumonia	J10-J18	480 ⁻⁴ 87
Chronic lower respiratory diseases¹	J40-J47	490 ⁻⁴ 96
Chronic liver disease and cirrhosis	K70, K73-K74	571
Nephritis	N00-N07, N17-N19, N25-N27	580-589
Congenital malformations, deformations, and chromosomal abnormalities	Q00-Q99	740-759
Certain conditions originating in the perinatal period (Perinatal Conditions)	P00-P96	760-779
III-defined conditions	R00-R99	780-797, 798.1-798.9, 799
Sudden infant death syndrome (SIDS)	R95	798.0
External causes of injuries and poisonings (intentional, unintentional and of undetermined intent)	V01-Y89	E800-E999
Accidents (Unintentional Injuries)	V01-X59, Y85-Y86	E800-E949
Motor Vehicle-related injuries	V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2	E810-E825
Unintentional non-transport injuries	W00-X59, Y86	E850-E869, E880-E928, E929.2-E929.9
Suicide	X60-X84, Y87.0	E950-E959
Homicide	X85-Y09, Y87.1	E960-E969
Injuries of undetermined intent	Y10-Y34, Y87.2, Y89.9	E980-E989

1. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title).

Table A2. ICD-10 and ICD-9 Codes Used in this Publication

(Sorted by Cause of Death)

Cause of Death	ICD-10 Code	ICD-9 Code
Alzheimer's Disease	G30	331.0
Cancer (Malignant Neoplasms)	C00-C97	140-208
of bladder	C67	188
of cervix uteri	C53	180
of colon, rectum, rectum and anus	C18-C21	153-154, 159.9
of corpus uteri and uterus, part unspecified	C54-C55	179,182
of esophagus	C15	150
of female breast	C50	174
Hodgkin Disease	C81	201
of kidney and renal pelvis	C64-C65	189.0-189.1
Leukemia	C91-C95	202.4, 204-208
of meninges, brain & other parts of central nervous system	C70-C72	191-192
Multiple myeloma and immunoproliferative neoplasms	C88, C90	203
Non-Hodgkin lymphoma	C82-C85	200, 202 (except 202.4)
of ovary	C56	183.0
of prostate	C61	185
of stomach	C16	151
of pancreas	C25	157
of trachea, bronchus and lung	C33-C34	162
Certain conditions originating in the perinatal period (Perinatal Conditions)	P00-P96	760-779
Chronic liver disease and cirrhosis	K70, K73-K74	571
Chronic lower respiratory diseases¹	J40-J47	490 ⁻⁴ 96
Congenital malformations, deformations, and chromosomal abnormalities	Q00-Q99	740-759
Diabetes Mellitus	E10-E14	250
External causes of injuries and poisonings (intentional, unintentional and of undetermined intent)	V01-Y98	E800-E999
Homicide	X85-Y09, Y87.1	E960-E969
Injuries of undetermined intent	Y10-Y34, Y87.2, Y89.9	E980-E989
Suicide	X60-X84, Y87.0	E950-E959
Accidents (Unintentional Injuries)	V01-X59	E800-E949
Motor Vehicle-related injuries	V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2	E810-E825
Unintentional non-transport injuries	W00-X59, Y86	E850-E869, E880-E928, E929.2-E929.9
Heart Disease	I00-I09, I11, I13, I20-I51	390-398, 402, 404 ⁻⁴ 29
Infectious and parasitic diseases	A00-B99	001-139
Human Immunodeficiency Virus (HIV) disease (AIDS)	B20-B24	042-044
Septicemia	A40-A41	038
Influenza and pneumonia	J10-J18	480 ⁻⁴ 87
Nephritis	N00-N07, N17-N19, N25-N27	580-589
Stroke (Cerebrovascular disease)	I60-I69	430 ⁻⁴ 38
		780-797, 798.1-798.9, 799
Ill-defined conditions	R00-R99	799
Sudden infant death syndrome (SIDS)	R95	798.0

1. The title of this cause of death has changed between ICD-10 and ICD-9. Chronic Lower Respiratory Disease (ICD-10 title) corresponds to Chronic Obstructive Pulmonary Disease (COPD) (ICD-9 title).

Table A3. ICD-10 Injury Codes Used in this Publication

<u>Cause of Death</u>	<u>ICD-10 Code</u>
Suicide	X60-X84, Y87.0
Poisoning	X60-X69
Hanging, strangulation or suffocation	X70
Firearm	X72-X74
Other and unspecified	Residual
Homicide	X85-Y09, Y87.1
Firearm	X93-X95
Cut or pierce	X99
Other and unspecified	Residual
Unintentional Injuries (Accidents)	V01-X59, Y85-Y86
Falls	W00-W19
Hanging, strangulation or suffocation	W75-W84
Drowning or submersion	W65-W74
Smoke, fire and flames and contact with heat and hot substances	X00-X19
Poisoning	X40-X49
Firearm	W32-W34
Motor Vehicle-related	V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2
Injury to pedestrian	V02-V04, V09.0, V09
Injury to pedal cyclist	V12-V14, V19.0, V19.2, V19.4, V19.5, V19.6
Injury to motorcyclist	V20-V29
Injury to occupant	V30-V79, V80.3, V80.4, V80.5, V81.0, V81.1, V82.0, V82.1, V83-V86
Other and unspecified	Residual
Other and unspecified	Residual
Events of Undetermined Intent	Y10-Y34, Y87.2, Y89.9
Poisoning	Y10-Y19
Drowning or submersion	Y21
Other and unspecified	Residual
Legal Intervention	Y35-Y36, Y89.0, Y89.1
Firearm	Y35.0
Adverse Effects	Y40-Y59, Y60-Y84, Y88
Drugs	Y40-Y59, Y88.0
Medical Care	Y60-Y84, Y88.1, Y88.2, Y88.3

**Table A4. ICD-10 Codes for Selected Healthy People 2020 Mortality Objectives
Used in this Publication
(Sorted by Objective Number)**

Cause of Death*	ICD-10 Identifying Codes
Cancer (all sites)	C00-C97
Lung cancer	C33-C34
Female breast cancer	C50
Uterine Cervix cancer	C53
Colorectal cancer	C18-C21
Oropharyngeal cancer	C00-C14
Prostate cancer	C61
Malignant melanoma	C43
Coronary heart disease	I11, I20-I25
COPD	J40-J44
Stroke	I60-I69
HIV infection	B20-B24
Firearm-related deaths	W32-W34, X72-X74, Y22-Y24, Y35.0, X93-X95
Poisoning	X40-X49, X60-X69, X85-X90, Y10-Y19, Y35.2
Hanging, strangulation or suffocation	W75-W84, X70, X91, Y20
Unintentional injuries (Accidents)	V01-X59, Y85-Y86
Motor vehicle-related	V02-V04, V09.0, V09.2, V12-V14, V19.0- V19.2, V19.4-V19.6, V20-V79, V80.3- V80.5, V81.0-V81.1, V82.0-V82.1, V83- V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2
Residential fire deaths	X00, X02
Falls	W00-W19, X80, Y01, Y30
Drownings	W65-W74, X71, X92, Y21
Homicides	X85-Y09, Y87.1
Birth defects	Q00-Q99
Congenital heart and vascular defects	Q20-Q24
Sudden infant death syndrome (SIDS)	R95
Suicide	X60-X84, Y87.0
Asthma	J45-J46
Motor-vehicle crash deaths	V02-V04, V09.0, V09.2, V12-V14, V19.0- V19.2, V19.4-V19.6, V20-V79, V80.3- V80.5, V81.0-V81.1, V82.0-V82.1, V83- V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2
Cirrhosis	K74
Drug induced deaths	F11.0-F11.5, F11.7-F11.9, F12.0-F12.5, F12.7-F12.9, F13.0-F13.5, F13.7-F13.9, F14.0-F14.5, F14.7-F14.9, F15.0-F15.5, F15.7-F15.9, F16.0-F16.5, F16.7-F16.9, F17.0, F17.3-F17.5, F17.7-F17.9, F18.0- F18.5, F18.7-F18.9, F19.0-F19.5, F19.7- F19.9, X40-X44, X60-64, X85, Y10-Y14

These Healthy People 2010 objectives use underlying cause of death data.

Table A5. Preliminary Comparability Ratios

<u>Cause of Death</u>	<u>ICD-10 Code</u>	<u>ICD-9 Code</u> (most similar title)	<u>Comparability Ratio</u>
Infectious and parasitic diseases	A00-B99		NA
Septicemia	A40-A41	038	1.1949
Human Immunodeficiency Virus (HIV) disease	B20-B24	042-044	1.0637 ¹ and 1.1448 ²
Cancer (Malignant Neoplasms)	C00-C97	140-208	1.0068
of esophagus	C15	150	0.9965
of stomach	C16	151	1.0063
of colon, rectum, rectum and anus	C18-C21	153-154	0.9993
of pancreas	C25	157	0.9980
of trachea, bronchus and lung	C33-C34	162	0.9837
of breast	C50	174-175	1.0056
of cervix uteri	C53	180	0.9871
of corpus uteri and uterus, part unspecified	C54-C55	179,182	1.0260
of ovary	C56	183.0	0.9954
of prostate	C61	185	1.0134
of kidney and renal pelvis	C64-C65	189.0-189.1	1.0000
of bladder	C67	188	0.9968
of meninges, brain & other parts of central nervous system	C70-C72	191-192	0.9691
Hodgkin Disease	C81	201	0.9855
Non-Hodgkin lymphoma	C82-C85	200, 202	0.9781
Leukemia	C91-C95	204-208	1.0119
Multiple myeloma and immunoproliferative neoplasms	C88, C90	203	1.0383
Diabetes Mellitus	E10-E14	250	1.0082
Alzheimer's Disease	G30	331.0	1.5536
Heart Disease	I00-I09, I11, I13, I20-I51	390-398, 402, 404, 410⁻ 429	0.9858
Stroke (Cerebrovascular disease)	I60-I69	430⁻⁴34, 436⁻⁴38	1.0588
Influenza and pneumonia	J10-J18	480⁻⁴87	0.6982
Chronic lower respiratory diseases	J40-J47	490⁻⁴94,496	1.0478
Chronic liver disease and cirrhosis	K70, K73-K74	571	1.0367
Nephritis	N00-N07, N17-N19, N25-N27	580-589	1.2320
Congenital malformations, deformations, and chromosomal abnormalities	Q00-Q99	740-759	0.8470
Certain conditions originating in the perinatal period (Perinatal Conditions)	P00-P96	760-771.2, 771.4-779	1.0658
External causes of injuries and poisonings (intentional, unintentional and of undetermined intent)	V01-Y89	E800-E999	NA
Accidents (Unintentional Injuries)	V01-X59, Y85-Y86	E800-E869, E880-E929	1.0305
Motor Vehicle-related injuries	V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2	E810-E825	0.9754 ³
Non-transport injuries	W00-X59, Y86	E850-E869, E880-E928, E929.2-E929.9	1.0763
Suicide	X60-X84, Y87.0	E950-E959	0.9962
Homicide	X85-Y09, Y87.1	E960-E969	0.9983
Injuries of undetermined intent	Y10-Y34, Y87.2, Y89.9	E980-E989	*

Source: National Center for Health Statistics, Preliminary Comparability Study. February 2001. NA: not available *: not reliable

Please refer to Appendix for an example of how to apply comparability ratios. 1. Comparability Modified number and rate based on preliminary comparability ratios (CR) from NCHS based on 1996 data (February 2001). 2. Comparability Modified number and rate based on preliminary comparability ratios (CR) from NCHS based on 1998 data (revised June 2001). 3. This is the revised comparability ratio for motor vehicle-related injuries, effective May 2001.

Table A6. Preliminary Comparability Ratios: Causes of Infant Death

<u>Cause of Death</u>	<u>ICD-10 Code</u>	<u>ICD-9 Code</u> (most similar title)	<u>Comparability Ratio</u>
Certain infectious and parasitic diseases	A00-B99	001-033, 034.1-134, 136-139, 771.3	0.7339
Septicemia	A40-A41	038	1.3802
Human Immunodeficiency Virus (HIV) disease	B20-B24	042-044	1.0455
Cancer (Malignant Neoplasms)	C00-C97	140-208	1.0435
Influenza and pneumonia	J10-J18	480 ^a -487	0.7624
Certain conditions originating in the perinatal period (Perinatal Conditions)	P00-P96	760-771.2, 771.4-779	1.0581
Newborn affected by maternal complications of pregnancy	P01	761	1.0295
Newborn affected by complications of placenta, cord and membranes	P02	762	1.0470
Disorders relating to short gestation and low birthweight	P07	765	1.1060
Intrauterine hypoxia and birth asphyxia	P20-P21	768	1.4477
Respiratory distress of newborn	P22	769	1.0257
Other respiratory conditions originating in perinatal period	P23-P28	770	0.8455
Infections specific to the perinatal period	P35-P39	771.0-771.2, 771.4-771.8	1.0199
Neonatal hemorrhage	P50-P52, P54	772	1.4369
Congenital malformations, deformations, and chromosomal abnormalities	Q00-Q99	740-759	0.9064
Anencephaly and similar malformations	Q00	740	1.0000
Congenital malformations of heart	Q20-Q24	745-746	0.9951
Congenital malformations of respiratory system	Q30-Q34	748	0.6322
Congenital malformations of digestive system	Q35-Q45	749-751	*
Congenital malformations of genitourinary system	Q50-Q64	752-753	0.9432
Congenital malformations of musculoskeletal system	Q65-Q85	754-757	0.8650
Sudden Infant Death Syndrome (SIDS)	R95	798.0	1.0362
External causes of injuries and poisonings (intentional, unintentional and of undetermined intent)	V01-Y89	E800-E999	NA
Accidents (Unintentional Injuries)	V01-X59	E800-E869, E880-E929	1.0246
Motor Vehicle-related injuries	V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2	E810-E825	0.9167
Homicide	X85-Y09	E960-E969	0.9481
Injuries of undetermined intent	Y10-Y34, Y87.2, Y89.9	E980-E989	*

Source: National Center for Health Statistics, Preliminary Comparability Study. February 2001. NA: not available *: not reliable
Please refer to Appendix for an example of how to apply comparability ratios.

Table A7. Population Estimates for Massachusetts Community Health Network Areas (CHNA), 2010¹ and Counties, 2011²

CHNA	POPULATION ¹	COUNTY	POPULATION ¹
1. Community Health Network of Berkshire County	131,219	Barnstable	215,769
2. Upper Valley Health Web (Franklin County)	87,130	Berkshire	130,458
3. Partnership for Health in Hampshire County (Northampton)	155,900	Bristol	548,922
4. The Community Health Connection (Springfield)	296,850	Dukes	16,766
5. Community Health Network of Southern Worcester County	119,539	Essex	748,930
6. Community Partners for Health (Milford)	166,824	Franklin	71,599
7. Community Health Network of Greater Metro West (Framingham)	388,909	Hampden	463,783
8. Common Pathways (Worcester)	309,013	Hampshire	157,822
9. Community Health Network of North Central Massachusetts	262,652	Middlesex	1,518,171
10. Greater Lowell Community Health Network	275,404	Nantucket	10,142
11. Greater Lawrence Community Health Network	194,172	Norfolk	675,436
12. Greater Haverhill Community Health Network	148,563	Plymouth	497,579
13. Community Health Network North (Beverly/Gloucester)	115,782	Suffolk	730,932
14. North Shore Community Health Network	284,642	Worcester	801,227
15. Northwest Suburban Health Alliance	215,757		
16. North Suburban Health Alliance (Medford/Malden/Melrose)	270,281	STATE	6,587,536
17. Greater Cambridge/Somerville Community Health Network	280,404		
18. West Suburban Health Network (Newton/Waltham)	258,843		
19. Alliance for Community Health (Boston/Chelsea/Revere/Winthrop)	780,755		
20. Blue Hills Community Health Alliance (Greater Quincy)	377,279		
21. Community Health Network of Chicopee, Holyoke, Ludlow, Westfield	160,892		
22. Greater Brockton Community Health Network	236,778		
23. South Shore Community Health Network (Plymouth)	190,549		
24. Greater Attleboro-Taunton Health & Education Response	256,322		
25. Partners for Healthier Communities (Fall River)	138,419		
26. Greater New Bedford Community Health Network	202,156		
27. Cape Cod and Islands Health Network	242,595		

1. The Massachusetts Department of Public Health Race Allocated Census 2010 Estimates (MRACE 2010), which are population estimates based upon the Census 2010 Summary File 1, was used to calculate city and town rates.
2. National Center for Health Statistics. Postcensal estimates of the resident population of the United States for July 1, 2010-July 1, 2011, by year, county, single-year of age (0, 1, 2, ..., 85 years and over), bridged race, Hispanic origin, and sex (Vintage 2011). Prepared under a collaborative arrangement with the U.S. Census Bureau. Available from: http://www.cdc.gov/nchs/nvss/bridged_race.htm as of July, 2012, following release by the U.S. Census Bureau of the unbridged Vintage 2011 postcensal estimates by 5-year age group on May 17, 2012.

Table A8. Population Estimates for Massachusetts Communities, 2010

TOWN NAME	COUNTY	CHNA	POPULATION	TOWN NAME	COUNTY	CHNA	POPULATION
Abington	Plymouth	22	15,985	Concord	Middlesex	15	17,668
Acton	Middlesex	15	21,924	Conway	Franklin	2	1,897
Acushnet	Bristol	26	10,303	Cummington	Hampshire	3	872
Adams	Berkshire	1	8,485	Dalton	Berkshire	1	6,756
Agawam	Hampden	4	28,438	Danvers	Essex	14	26,493
Alford	Berkshire	1	494	Dartmouth	Bristol	26	34,032
Amesbury	Essex	12	16,283	Dedham	Norfolk	18	24,729
Amherst	Hampshire	3	37,819	Deerfield	Franklin	2	5,125
Andover	Essex	11	33,201	Dennis	Barnstable	27	14,207
Aquinnah (Gay Head)	Dukes	27	311	Dighton	Bristol	24	7,086
Arlington	Middlesex	17	42,844	Douglas	Worcester	6	8,471
Ashburnham	Worcester	9	6,081	Dover	Norfolk	18	5,589
Ashby	Middlesex	9	3,074	Dracut	Middlesex	10	29,457
Ashfield	Franklin	2	1,737	Dudley	Worcester	5	11,390
Ashland	Middlesex	7	16,593	Dunstable	Middlesex	10	3,179
Athol	Worcester	2	11,584	Duxbury	Plymouth	23	15,059
Attleboro	Bristol	24	43,593	East Bridgewater	Plymouth	22	13,794
Auburn	Worcester	8	16,188	East Brookfield	Worcester	5	2,183
Avon	Norfolk	22	4,356	East Longmeadow	Hampden	4	15,720
Ayer	Middlesex	9	7,427	Eastham	Barnstable	27	4,956
Barnstable	Barnstable	27	45,193	Easthampton	Hampshire	3	16,053
Barre	Worcester	9	5,398	Easton	Bristol	22	23,112
Becket	Berkshire	1	1,779	Edgartown	Dukes	27	4,067
Bedford	Middlesex	15	13,320	Egremont	Berkshire	1	1,225
Belchertown	Hampshire	3	14,649	Erving	Franklin	2	1,800
Bellingham	Norfolk	6	16,332	Essex	Essex	13	3,504
Belmont	Middlesex	17	24,729	Everett	Middlesex	16	41,667
Berkley	Bristol	24	6,411	Fairhaven	Bristol	26	15,873
Berlin	Worcester	9	2,866	Fall River	Bristol	25	88,857
Bernardston	Franklin	2	2,129	Falmouth	Barnstable	27	31,531
Beverly	Essex	13	39,502	Fitchburg	Worcester	9	40,318
Billerica	Middlesex	10	40,243	Florida	Berkshire	1	752
Blackstone	Worcester	6	9,026	Foxborough	Norfolk	7	16,865
Blandford	Hampden	4	1,233	Frammingham	Middlesex	7	68,318
Bolton	Worcester	9	4,897	Franklin	Norfolk	6	31,635
Boston	Suffolk	19	617,594	Freetown	Bristol	26	8,870
Bourne	Barnstable	27	19,754	Gardner	Worcester	9	20,228
Boxborough	Middlesex	15	4,996	Georgetown	Essex	12	8,183
Boxford	Essex	12	7,965	Gill	Franklin	2	1,500
Boylston	Worcester	8	4,355	Gloucester	Essex	13	28,789
Braintree	Norfolk	20	35,744	Goshen	Hampshire	3	1,054
Brewster	Barnstable	27	9,820	Gosnold	Dukes	27	75
Bridgewater	Plymouth	22	26,563	Grafton	Worcester	8	17,765
Brimfield	Hampden	5	3,609	Granby	Hampshire	3	6,240
Brockton	Plymouth	22	93,810	Granville	Hampden	4	1,566
Brookfield	Worcester	5	3,390	Great Barrington	Berkshire	1	7,104
Brookline	Norfolk	19	58,732	Greenfield	Franklin	2	17,456
Buckland	Franklin	2	1,902	Groton	Middlesex	9	10,646
Burlington	Middlesex	15	24,498	Groveland	Essex	12	6,459
Cambridge	Middlesex	17	105,162	Hadley	Hampshire	3	5,250
Canton	Norfolk	20	21,561	Halifax	Plymouth	23	7,518
Carlisle	Middlesex	15	4,852	Hamilton	Essex	13	7,764
Carver	Plymouth	23	11,509	Hampden	Hampden	4	5,139
Charlemont	Franklin	2	1,266	Hancock	Berkshire	1	717
Charlton	Worcester	5	12,981	Hanover	Plymouth	23	13,879
Chatham	Barnstable	27	6,125	Hanson	Plymouth	23	10,209
Chelmsford	Middlesex	10	33,802	Hardwick	Worcester	9	2,990
Chelsea	Suffolk	19	35,177	Harvard	Worcester	9	6,520
Cheshire	Berkshire	1	3,235	Harwich	Barnstable	27	12,243
Chester	Hampden	21	1,337	Hatfield	Hampshire	3	3,279
Chesterfield	Hampshire	3	1,222	Haverhill	Essex	12	60,879
Chicopee	Hampden	21	55,298	Hawley	Franklin	2	337
Chilmark	Dukes	27	866	Heath	Franklin	2	706
Clarksburg	Berkshire	1	1,702	Hingham	Plymouth	20	22,157
Clinton	Worcester	9	13,606	Hinsdale	Berkshire	1	2,032
Cohasset	Norfolk	20	7,542	Holbrook	Norfolk	22	10,791
Colrain	Franklin	2	1,671	Holden	Worcester	8	17,346

Table A8 (continued). Population Estimates for Massachusetts Communities, 2010

TOWN NAME	COUNTY	CHNA	POPULATION	TOWN NAME	COUNTY	CHNA	POPULATION
Holland	Hampden	5	2,481	New Marlborough	Berkshire	1	1,509
Holliston	Middlesex	7	13,547	New Salem	Franklin	2	990
Holyoke	Hampden	21	39,880	Newbury	Essex	12	6,666
Hopedale	Worcester	6	5,911	Newburyport	Essex	12	17,416
Hopkinton	Middlesex	7	14,925	Newton	Middlesex	18	85,146
Hubbardston	Worcester	9	4,382	Norfolk	Norfolk	7	11,227
Hudson	Middlesex	7	19,063	North Adams	Berkshire	1	13,708
Hull	Plymouth	20	10,293	North Andover	Essex	11	28,352
Huntington	Hampshire	21	2,180	North Attleboro	Bristol	24	28,712
Ipswich	Essex	13	13,175	North Brookfield	Worcester	5	4,680
Kingston	Plymouth	23	12,629	North Reading	Middlesex	16	14,892
Lakeville	Plymouth	24	10,602	Northampton	Hampshire	3	28,549
Lancaster	Worcester	9	8,055	Northborough	Worcester	7	14,155
Lanesborough	Berkshire	1	3,091	Northbridge	Worcester	6	15,707
Lawrence	Essex	11	76,377	Northfield	Franklin	2	3,032
Lee	Berkshire	1	5,943	Norton	Bristol	24	19,031
Leicester	Worcester	8	10,970	Norwell	Plymouth	20	10,506
Lenox	Berkshire	1	5,025	Norwood	Norfolk	20	28,602
Leominster	Worcester	9	40,759	Oak Bluffs	Dukes	27	4,527
Leverett	Franklin	2	1,851	Oakham	Worcester	9	1,902
Lexington	Middlesex	15	31,394	Orange	Franklin	2	7,839
Leyden	Franklin	2	711	Orleans	Barnstable	27	5,890
Lincoln	Middlesex	15	6,362	Otis	Berkshire	1	1,612
Littleton	Middlesex	15	8,924	Oxford	Worcester	5	13,709
Longmeadow	Hampden	4	15,784	Palmer	Hampden	4	12,140
Lowell	Middlesex	10	106,519	Paxton	Worcester	8	4,806
Ludlow	Hampden	21	21,103	Peabody	Essex	14	51,251
Lunenburg	Worcester	9	10,086	Pelham	Hampshire	3	1,321
Lynn	Essex	14	90,329	Pembroke	Plymouth	23	17,837
Lynnfield	Essex	14	11,596	Pepperell	Middlesex	9	11,497
Malden	Middlesex	16	59,450	Peru	Berkshire	1	847
Manchester	Essex	13	5,136	Petersham	Worcester	2	1,234
Mansfield	Bristol	24	23,184	Phillipston	Worcester	2	1,682
Marblehead	Essex	14	19,808	Pittsfield	Berkshire	1	44,737
Marion	Plymouth	26	4,907	Plainfield	Hampshire	3	648
Marlborough	Middlesex	7	38,499	Plainville	Norfolk	7	8,264
Marshfield	Plymouth	23	25,132	Plymouth	Plymouth	23	56,468
Mashpee	Barnstable	27	14,006	Plympton	Plymouth	23	2,820
Mattapoisett	Plymouth	26	6,045	Princeton	Worcester	9	3,413
Maynard	Middlesex	7	10,106	Provincetown	Barnstable	27	2,942
Medfield	Norfolk	7	12,024	Quincy	Norfolk	20	92,271
Medford	Middlesex	16	56,173	Randolph	Norfolk	20	32,112
Medway	Norfolk	6	12,752	Raynham	Bristol	24	13,383
Melrose	Middlesex	16	26,983	Reading	Middlesex	16	24,747
Mendon	Worcester	6	5,839	Rehoboth	Bristol	24	11,608
Merrimac	Essex	12	6,338	Revere	Suffolk	19	51,755
Methuen	Essex	11	47,255	Richmond	Berkshire	1	1,475
Middleborough	Plymouth	24	23,116	Rochester	Plymouth	26	5,232
Middlefield	Hampshire	3	521	Rockland	Plymouth	23	17,489
Middleton	Essex	11	8,987	Rockport	Essex	13	6,952
Milford	Worcester	6	27,999	Rowe	Franklin	2	393
Millbury	Worcester	8	13,261	Rowley	Essex	12	5,856
Millis	Norfolk	7	7,891	Royalston	Worcester	2	1,258
Millville	Worcester	6	3,190	Russell	Hampden	4	1,775
Milton	Norfolk	20	27,003	Rutland	Worcester	9	7,973
Monroe	Franklin	2	121	Salem	Essex	14	41,340
Monson	Hampden	4	8,560	Salisbury	Essex	12	8,283
Montague	Franklin	2	8,437	Sandisfield	Berkshire	1	915
Monterey	Berkshire	1	961	Sandwich	Barnstable	27	20,675
Montgomery	Hampden	4	838	Saugus	Essex	14	26,628
Mt. Washington	Berkshire	1	167	Savoy	Berkshire	1	692
Nahant	Essex	14	3,410	Scituate	Plymouth	20	18,133
Nantucket	Nantucket	27	10,172	Seekonk	Bristol	24	13,722
Natick	Middlesex	7	33,006	Sharon	Norfolk	20	17,612
Needham	Norfolk	18	28,886	Sheffield	Berkshire	1	3,257
New Ashford	Berkshire	1	228	Shelburne	Franklin	2	1,893
New Bedford	Bristol	26	95,072	Sherborn	Middlesex	7	4,119
New Braintree	Worcester	9	999	Shirley	Middlesex	9	7,211

Table A8 (continued). Population Estimates for Massachusetts Communities, 2010

TOWN NAME	COUNTY	CHNA	POPULATION	TOWN NAME	COUNTY	CHNA	POPULATION
Shrewsbury	Worcester	8	35,608	Warwick	Franklin	2	780
Shutesbury	Franklin	2	1,771	Washington	Berkshire	1	538
Somerset	Bristol	25	18,165	Watertown	Middlesex	17	31,915
Somerville	Middlesex	17	75,754	Wayland	Middlesex	7	12,994
South Hadley	Hampshire	3	17,514	Webster	Worcester	5	16,767
Southampton	Hampshire	3	5,792	Wellesley	Norfolk	18	27,982
Southborough	Worcester	7	9,767	Wellfleet	Barnstable	27	2,750
Southbridge	Worcester	5	16,719	Wendell	Franklin	2	848
Southwick	Hampden	4	9,502	Wenham	Essex	13	4,875
Spencer	Worcester	5	11,688	West Boylston	Worcester	8	7,669
Springfield	Hampden	4	153,060	West Bridgewater	Plymouth	22	6,916
Sterling	Worcester	9	7,808	West Brookfield	Worcester	5	3,701
Stockbridge	Berkshire	1	1,947	West Newbury	Essex	12	4,235
Stoneham	Middlesex	16	21,437	West Springfield	Hampden	4	28,391
Stoughton	Norfolk	22	26,962	West Stockbridge	Berkshire	1	1,306
Stow	Middlesex	7	6,590	West Tisbury	Dukes	27	2,740
Sturbridge	Worcester	5	9,268	Westborough	Worcester	7	18,272
Sudbury	Middlesex	7	17,659	Westfield	Hampden	21	41,094
Sunderland	Franklin	2	3,684	Westford	Middlesex	10	21,951
Sutton	Worcester	6	8,963	Westhampton	Hampshire	3	1,607
Swampscott	Essex	14	13,787	Westminster	Worcester	9	7,277
Swansea	Bristol	25	15,865	Weston	Middlesex	18	11,261
Taunton	Bristol	24	55,874	Westport	Bristol	25	15,532
Templeton	Worcester	9	8,013	Westwood	Norfolk	18	14,618
Tewksbury	Middlesex	10	28,961	Weymouth	Norfolk	20	53,743
Tisbury	Dukes	27	3,949	Whately	Franklin	2	1,496
Tolland	Hampden	4	485	Whitman	Plymouth	22	14,489
Topsfield	Essex	13	6,085	Wilbraham	Hampden	4	14,219
Townsend	Middlesex	9	8,926	Williamsburg	Hampshire	3	2,482
Truro	Barnstable	27	2,003	Williamstown	Berkshire	1	7,754
Tyngsborough	Middlesex	10	11,292	Wilmington	Middlesex	15	22,325
Tyringham	Berkshire	1	327	Winchendon	Worcester	9	10,300
Upton	Worcester	6	7,542	Winchester	Middlesex	15	21,374
Uxbridge	Worcester	6	13,457	Windsor	Berkshire	1	899
Wakefield	Middlesex	16	24,932	Winthrop	Suffolk	19	17,497
Wales	Hampden	5	1,838	Woburn	Middlesex	15	38,120
Walpole	Norfolk	7	24,070	Worcester	Worcester	8	181,045
Waltham	Middlesex	18	60,632	Worthington	Hampshire	3	1,156
Ware	Hampshire	3	9,872	Wrentham	Norfolk	7	10,955
Wareham	Plymouth	26	21,822	Yarmouth	Barnstable	27	23,793
Warren	Worcester	5	5,135				

1. The Massachusetts Department of Public Health Race Allocated Census 2010 Estimates (MRACE 2010), which are population estimates based upon the Census 2010 Summary File 1, was used to calculate city and town rates.

Table A9. 2011 Massachusetts Population Estimates¹ By Age Group, Gender, Race and Hispanic Ethnicity² (mutually exclusive)

AGE	GENDER	TOTAL	WHITE Non- Hispanic	BLACK Non- Hispanic	ASIAN Non- Hispanic	HISPANIC
Under 1	Male	37,453	24,782	3,375	2,709	6,488
	Female	35,890	23,721	3,209	2,643	6,223
	Total	73,343	48,503	6,584	5,352	12,711
1 TO 4	Male	149,460	98,082	13,940	10,780	26,259
	Female	142,848	93,585	13,243	10,607	25,047
	Total	292,308	191,667	27,183	21,387	51,306
5 TO 14	Male	399,927	282,040	34,041	24,340	58,497
	Female	383,895	269,068	32,735	24,700	56,402
	Total	783,822	551,108	66,776	49,040	114,899
15 TO 24	Male	470,216	333,705	41,094	29,494	64,637
	Female	464,913	329,698	39,959	32,421	61,650
	Total	935,129	663,403	81,053	61,915	126,287
25 TO 34	Male	429,239	304,178	32,401	35,126	56,578
	Female	438,817	307,749	34,458	39,610	56,010
	Total	868,056	611,927	66,859	74,736	112,588
35 TO 44	Male	422,208	316,481	29,408	31,287	44,067
	Female	443,326	328,629	32,567	33,660	47,516
	Total	865,534	645,110	61,975	64,947	91,583
45 TO 54	Male	492,566	405,444	29,890	22,622	33,438
	Female	517,024	422,117	31,927	24,320	37,409
	Total	1,009,590	827,561	61,817	46,942	70,847
55 TO 64	Male	401,470	347,922	19,571	14,746	18,355
	Female	436,395	373,997	22,550	16,658	22,278
	Total	837,865	721,919	42,121	31,404	40,633
65 TO 74	Male	217,245	192,080	9,067	7,689	7,987
	Female	256,242	223,742	12,350	8,766	10,957
	Total	473,487	415,822	21,417	16,455	18,944
75 TO 84	Male	122,583	111,460	4,111	3,677	3,133
	Female	175,740	158,887	7,083	4,498	5,036
	Total	298,323	270,347	11,194	8,175	8,169
85 +	Male	47,174	44,000	1,245	944	924
	Female	102,905	96,689	2887	1,491	1,730
	Total	150,079	140,689	4,132	2,435	2,654
ALL AGES	Male	3,189,541	2,460,174	218,143	183,414	320,363
	Female	3,397,995	2,627,882	232,968	199,374	330,258
	Total	6,587,536	5,088,056	451,111	382,788	650,621

1. National Center for Health Statistics. Postcensal estimates of the resident population of the United States for July 1, 2010-July 1, 2011, by year, county, single-year of age (0, 1, 2, ..., 85 years and over), bridged race, Hispanic origin, and sex (Vintage 2011). Prepared under a collaborative arrangement with the U.S. Census Bureau. Available from: http://www.cdc.gov/nchs/nvss/bridged_race.htm as of July, 2012, following release by the U.S. Census Bureau of the unbridged Vintage 2011 postcensal estimates by 5-year age group on May 17, 2012.

2. Persons of Hispanic ethnicity are NOT included in the race categories. These estimates are used to calculate population based rates published in this report.

Table A10. Causes of Death Considered Amenable to Health Care

Cause of Death Considered Amenable to Health Care	Age	ICD-10 Codes
Intestinal infections	0-14	A00-A09
Tuberculosis	0-74	A15-A19, B90
Other infectious (Diphtheria, Tetanus, Poliomyelitis)	0-74	A36, A35, A80, A40-A41
Whooping cough	0-14	A37
Measles	1 to 14	B05
Malignant neoplasm of colon and rectum	0-74	C18-C21
Malignant neoplasm of skin,	0-74	C44
Malignant neoplasm of breast,	0-74	C50
Malignant neoplasm of cervix uteri	0-74	C53
Malignant neoplasm of cervix uteri and body of the uterus	0-44	C54, C55
Malignant neoplasm of testis	0-74	C62
Hodgkin's disease	0-74	C81
Leukemia	0-44	C91-C95
Diseases of the thyroid	0-74	E00-E07
Diabetes mellitus	0-49	E10-E14
Epilepsy	0-74	G40-G41
Chronic rheumatic heart disease	0-74	I05-I09
Hypertensive disease	0-74	I10-I13, I15
Ischemic heart disease	0-74	I20-I25
Cerebrovascular disease	0-74	I60-I69
All respiratory diseases (excl. pneumonia/influenza)	1 to 14	J00-J09, J20-J99
Influenza	0-74	J10-J11
Pneumonia	0-74	J12-J18
Peptic ulcer	0-74	K25-K27
Appendicitis	0-74	K35-K38
Abdominal hernia	0-74	K40-K46
Cholelithiasis & cholecystitis	0-74	K80-K81
Nephritis and nephrosis	0-74	N00-N07, N17-N19, N25-N27
Benign prostatic hyperplasia	0-74	N40
Misadventures to patients during surgical and medical care	All	Y60-Y69, Y83-Y84
Maternal deaths	All	O00-O99
Congenital cardiovascular anomalies	0-74	Q20-Q28
Perinatal deaths, all causes excluding stillbirths	All	P00-P96

Note: Amenable Causes are from E. Nolte and M. McKee, *Does Healthcare Save Lives? Avoidable Mortality Revisited* (London: Nuffield Trust, 2004). Available at <http://content.healthaffairs.org/cgi/data/27/1/58/DC1/1>. Accessed 7/15/2010

Massachusetts Death Certificate: 2012

OR USE BY MEDICAL EXAMINERS ONLY		The Commonwealth of Massachusetts MEDICAL EXAMINER'S CERTIFICATE OF DEATH REGISTRY OF VITAL RECORDS AND STATISTICS			OCME CASE NUMBER	REGISTERED NUMBER	STATE USE ONLY
1	DECEASED - NAME	LAST			2	SEX	3 DATE OF BIRTH (Mo, Day, Yr)
4	PLACE OF BIRTH (City/Town)	5	COUNTY OF BIRTH	6	HOSPITAL OR OTHER INSTITUTION - Name (if not in office, give street and number)		
7	PLACE OF DEATH (Check only one) <input type="checkbox"/> Hospital <input type="checkbox"/> Outpatient <input type="checkbox"/> Other	8	SOCIAL SECURITY NUMBER	9	DECEASED'S EDUCATION (highest grade completed) Elem-Sec (1-12) College (1-4, 5+)	10 POST WAR VETERAN Specify War	
11	DECEASED'S RACE (Specify)	12	DECEASED'S SEX (Specify)	13	DECEASED'S BIRTH (Mo, Day, Yr)	14 BIRTHPLACE (City and State or Foreign Country)	
15	DECEASED'S MARRIAGE STATUS (Specify) <input type="checkbox"/> Single <input type="checkbox"/> Married <input type="checkbox"/> Widowed <input type="checkbox"/> Divorced	16	DECEASED'S LAST SPOUSE (Full name at birth or adoption)	17	DECEASED'S USUAL OCCUPATION (prior, if retired)	18 TYPE OF BUSINESS/INDUSTRY	
19	DECEASED'S RESIDENCE - No. and Street, City/Town, County, State/Country	20	FATHER - Full name at birth or adoption	21	STATE OF BIRTH (If not in US, name country)	22	MOTHER - Full name at birth or adoption
23	INFORMANT'S NAME	24	MARRIAGE ADDRESS	25	RELATIONSHIP	26 DEGREE	
27	METHOD OF IMMEDIATE DISPOSITION <input type="checkbox"/> Burial <input type="checkbox"/> Cremation <input type="checkbox"/> Entombment <input type="checkbox"/> Partially Burial State <input type="checkbox"/> Other	28	PLURAL, SERVICE, LUNGEON OR OTHER DISORDER	29	LOCATION (City/Town/State)	30 DEGREE	
31	DATE OF DISPOSITION (Mo, Day, Yr)	32	NAME AND ADDRESS OF FAMILY OR OTHER PERSON	33	CAUSE OF DEATH - (Specify ALL CAUSES, including immediate cause, then antecedent causes, then underlying cause)	34 AFX INTERVAL	
35	CAUSE OF DEATH - (Specify ALL CAUSES, including immediate cause, then antecedent causes, then underlying cause)	36	DATE OF INJURY	37	TIME OF INJURY	38 INJURY AT WORK? <input type="checkbox"/> Yes <input type="checkbox"/> No	
39	DATE OF DEATH	40	PLACE OF INJURY (Type)	41	LOCATION/ADDRESS OF INJURY	42 DATE PRONOUNCED	
43	DATE OF DEATH	44	TIME OF DEATH	45	DATE PRONOUNCED	46 TIME PRONOUNCED	
47	DATE OF DEATH	48	TIME OF DEATH	49	DATE PRONOUNCED	50 TIME PRONOUNCED	
51	DATE OF DEATH	52	TIME OF DEATH	53	DATE PRONOUNCED	54 TIME PRONOUNCED	
55	DATE OF DEATH	56	TIME OF DEATH	57	DATE PRONOUNCED	58 TIME PRONOUNCED	
59	DATE OF DEATH	60	TIME OF DEATH	61	DATE PRONOUNCED	62 TIME PRONOUNCED	
63	DATE OF DEATH	64	TIME OF DEATH	65	DATE PRONOUNCED	66 TIME PRONOUNCED	
67	DATE OF DEATH	68	TIME OF DEATH	69	DATE PRONOUNCED	70 TIME PRONOUNCED	
71	DATE OF DEATH	72	TIME OF DEATH	73	DATE PRONOUNCED	74 TIME PRONOUNCED	
75	DATE OF DEATH	76	TIME OF DEATH	77	DATE PRONOUNCED	78 TIME PRONOUNCED	
79	DATE OF DEATH	80	TIME OF DEATH	81	DATE PRONOUNCED	82 TIME PRONOUNCED	
83	DATE OF DEATH	84	TIME OF DEATH	85	DATE PRONOUNCED	86 TIME PRONOUNCED	
87	DATE OF DEATH	88	TIME OF DEATH	89	DATE PRONOUNCED	90 TIME PRONOUNCED	
91	DATE OF DEATH	92	TIME OF DEATH	93	DATE PRONOUNCED	94 TIME PRONOUNCED	
95	DATE OF DEATH	96	TIME OF DEATH	97	DATE PRONOUNCED	98 TIME PRONOUNCED	
99	DATE OF DEATH	100	TIME OF DEATH	101	DATE PRONOUNCED	102 TIME PRONOUNCED	

Circumstance for Referral to the Office of the Chief Medical Examiner (OCME)

<http://www.mass.gov/legis/laws/mgl/38-3.htm>

CHAPTER 38. MEDICAL EXAMINERS AND INQUESTS

Chapter 38: Section 3. Duty to report deaths; failure to report

Section 3. It shall be the duty of any person having knowledge of a death which occurs under the circumstances enumerated in this paragraph immediately to notify the office of the chief medical examiner, or the medical examiner designated to the location where the death has occurred, of the known facts concerning the time, place, manner, circumstances and cause of such death:

- (1) death where criminal violence appears to have taken place, regardless of the time interval between the incident and death, and regardless of whether such violence appears to have been the immediate cause of death, or a contributory factor thereto;
- (2) death by accident or unintentional injury, regardless of time interval between the incident and death, and regardless of whether such injury appears to have been the immediate cause of death, or a contributory factor thereto;
- (3) suicide, regardless of the time interval between the incident and death;
- (4) death under suspicious or unusual circumstances;
- (5) death following an unlawful abortion;
- (6) death related to occupational illness or injury;
- (7) death in custody, in any jail or correctional facility, or in any mental health or mental retardation institution;
- (8) death where suspicion of abuse of a child, family or household member, elder person or disabled person exists;
- (9) death due to poison or acute or chronic use of drugs or alcohol;
- (10) skeletal remains;
- (11) death associated with diagnostic or therapeutic procedures;
- (12) sudden death when the decedent was in apparent good health;
- (13) death within twenty-four hours of admission to a hospital or nursing home;
- (14) death in any public or private conveyance;

(15) fetal death, as defined by section two hundred and two of chapter one hundred and eleven, where the period of gestation has been twenty weeks or more, or where fetal weight is three hundred and fifty grams or more;

(16) death of children under the age of 18 years from any cause;

(17) any person found dead;

(18) death in any emergency treatment facility, medical walk-in center, day care center, or under foster care; or

(19) deaths occurring under such other circumstances as the chief medical examiner shall prescribe in regulations promulgated pursuant to the provisions of chapter thirty A.

A physician, police officer, hospital administrator, licensed nurse, department of social services social worker, or licensed funeral director, within the commonwealth, who, having knowledge of such an unreported death, fails to notify the office of the chief medical examiner of such death shall be punished by a fine of not more than five hundred dollars. Such failure shall also be reported to the appropriate board of registration, where applicable.

Massachusetts Deaths: 2012 Evaluation Form

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In an attempt to better serve our users, we are enclosing this evaluation form. Please take the time to complete this questionnaire and return it to the address at the bottom of the page. Thank you.

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